INDUSTRIAL EQUIPMENT NEWS

MARCH - 1950
VOL. 15 • NO. 3

The Original IEN — FOUNDED 1932

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

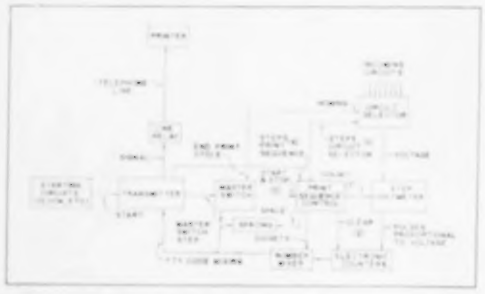
IEN - 2005

RECORDING . . Electronic equipment reads process facts, actuates teletype

Source: METROTYPE CORP.
523-27 W. 76th St., Chicago 20, Ill.

Orderly columns of figures representing selected condition facts in a process and showing change in them in selected recurring intervals are printed by a teletype when actuated by this new electronic equipment. The teletype can be located singly or in multiple at any convenient point. The electronic equipment locates normally near the point of signal origination to receive impulses based on flow, liquid level, pressure, temperature, voltage, current, viscosity or any other recurring variables to be recorded.

Each installation is engineered and assembled, largely from standard unit assemblies, to meet given requirements. Representative application is in chemical processing, oil refining, steel making, paper making, oil storage, electric power generation and transmission.



Readings are made to a schedule by clock contacts or some recurring element of the process without operator attention. The quantity to be read enters through a circuit selector and appears as a voltage at a step voltmeter. This voltmeter generates a number of pulses proportional to the voltage value and these pulses are counted electronically to serve as the start of the transmitting and teletyping action in connection with all of the other quantities also being read for recording. A complete three-digit reading can be measured and recorded in .8 second.

IEN - 2006

BEARING . . Sintered powdered metal molded with annular well for lubricant

Source: MICHIGAN POWDERED METAL PRODUCTS CO.
50 Industrial St., Northville, Mich.

A cavity in the form of a ring around the bore of this new bearing, a similar cavity filled with sponge iron and one carrying a group of small holes are the three types in which this new Oil-Well bearing is available. The term applies to the bearing itself and not to oil-field application with which the bearing has no connection. The unit is molded and sintered in conventional manner in a special process developed by the company to include the cavity as shown in the illustration.

Oil or grease impregnated into the finished bearing will fill the cavity as well as the pores of the metal to form a reservoir of reserve lubricant. The company is prepared to quote for specified requirements within its capacity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . . Ratings . . See Page 50

Give

RED CROSS MONTH

This month the American National Red Cross stages its annual campaign for funds to assist in disaster relief, home service, safety training, veterans hospitals and many other activities. It needs your support.

IEN - 2007

GAGE . . Optical comparator, 6X lens, for precision parts inspection

Source: NATIONAL TOOL CO.
11190-202 Madison Ave., Cleveland 2, Ohio

Dimensions involving length, width, circles, radii and angles can be checked against calibrated standards by application of this new Pocket Comparator. The dimensions are observed through the instrument's 6X lens in magnified coincidence with the standard markings on the reticle. Any deviation from the markings selected is immediately apparent. Initial development by Bell and Howell was for its own use, in tool room and production departments on tools, dies, product parts, to check dimensions and to search for possible defects such as bubbles, blowholes, cracks not immediately apparent. The gage is now available for general use through National Tool.

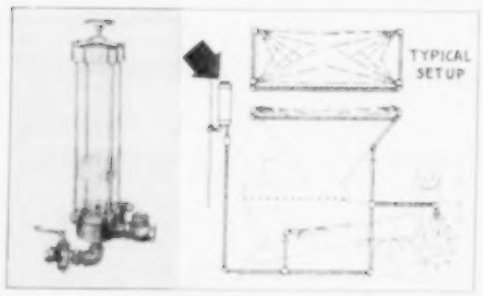
The upper portion of the illuminated field on the crown-glass optically polished reticle carries lengths graduated in seven steps between 1/64 and 1/4 in., a linear 1/2-in. rule with .005-in. graduations, a 10-mm. linear rule with .2-mm. graduations, ten circles from .002 to .050 in. in diameter on one side and 1/64 to 1/16 in. on the other. Two lines complete this portion of the reticle to show thickness or line weight measuring .001 and .002 inch. List price is $26.

The lower portion is laid out to measure angles from 0 to 90 deg. in 5-deg. steps and to measure radii from 1/16 to 5/8 in. in eleven steps. The glass reticle is made a part of the lucite transparent plastic front portion of the gage which rests upon the work and admits light to both reticle and work surface. It is threaded into the metal barrel carrying the lens to permit focusing. The two parts can be disassembled to clean the reticle surface. The markings are actual size on the reticle so they and the work are magnified together. Overall dimensions are 1 1/2 in. in diameter by 3 in. in length.

IEN - 2008

WATER TREATING . . Wetting compound and feeder for dust control, processing

Source: AQUADYNE CORP.
220 E. 42nd St., Rm. 1513, New York 17, N. Y.



Hydroblender is a new assembly of transparent Lucite tube, cast-brass head and base to take one or two capsules of the company's water-wetting compound. Connections are provided in the base for a raw water supply and for wet-water delivery. Flow toward through the supply side passes through a venturi nozzle to dissolve the capsule in correct proportion to the water flow. Each capsule will make 1,000 gal. of water in which surface tension has been reduced from 72 to 30 dynes. The feeder weighs 35 lb., can be mounted on a wall or at a machine.

The wet water can be directed through one or several spray heads on the delivery line using the inlet-line pressure, providing it is between 25 and 100 pounds. Most efficient pressure is 60 to 75 pounds. The water will wet dusts from which untreated water would normally run off. Its action is fast enough so the dust will be laid before it can form mud.

The company has prepared a series of 4-page illustrated bulletins covering applications in foundries, brick and tile plants, coal dust control, industrial dusts control, power plant wet-water uses. These are available on request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . . Ratings . . See Page 50

WHAT DO YOU NEED?

SUGGESTION . . Before you check through this issue, "lift" the Reader Service Form between pages 16 and 17 or 92 and 93 and keep it beside you as you go along. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

•

From a Company President

"We anticipate receiving Industrial Equipment News more than any other publication coming into our office to tell us about new equipment. We diligently study it and enjoy it very much. IEN helps us determine what is best in our manufacture of farm equipment and gives us a source of supply that might otherwise require considerable time in developing. Your advertising and your explanation certainly are tops."

•

Departments

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Products and services listed by names and by functions

SECURITY — Page 4
What it means to you, spelled out letter by letter

NEW LITERATURE — Page 24
Condensed reviews of current manufacturers' catalogs

NEWS NOTES — Page 74
Reviews of unusually helpful literature, films, books

"I WISH I HAD" — Page 105
Requests we cannot answer, printed in the hope you can

•

Our selections in this issue

CONTAINER — Page 1
Electric lunch box warms food in insulated compartment

CONTROL — Page 2
Electronic unit receives, holds, issues control signals

CONVEYING — Page 96
Tubular flight design receives, delivers of two pressures

EXTERMINATING — Page 102
Mouse trapping pad, sticky surface, causes heart failure

FASTENING — Page 80
Captive cap screws and pilot nuts help in field servicing

GEAR CUTTING — Page 16
Shaping machine feeds radially to cut internal teeth

MANAGEMENT — Page 77
Slide-rule tells how to figure net return on machine tools

PRINTING — Page 12
Microfilm service now available for IEN's own pages

ROCK DRILLING — Page 19
Carbide tipped drill masonry has spiral winding on shank

SEALING — Page 12
Cushioned wiper rings keep dirt out of shaft packings

SEALING — Page 51
Flexible plastic spout for pail includes shipping seal

TESTING — Page 62
Electronic counter to check workers for radioactivity

W. E. Tisch, V. Pres. & Editor — F. Morse Smith, V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

- ☐ Plant Operating Mr. _____
- ☐ Production Mr. _____
- ☐ Engineering Mr. _____
- ☐ Product Design Mr. _____
- ☐ Purchasing Mr. _____
- ☐ _____

BREVITY—Identify by IEN-2009 if you write the maker

BREVITY—Identify by IEN-2010 if you write the maker

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from
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- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

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Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-like material can do for you. It's the modern solution to condensation drip problems.

Send for Your Free Handbook Now!

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Insulation Coatings Since 1891
Dept. H, Kankakee, Ill.

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Make Less Metal Do More Work

- by adding structural and impact strength without increasing weight
- by giving attractive textures for eye-appeal and to resist scratching, marring, finger prints and "doodling"
- by a reduction of 25% to 50% in gauge without impairing structural values

INVESTIGATE! Write Today!

See our CATALOG in SWEET'S FILE for Product Designers

Rigidized Metals Corporation
654 Ohio St. Buffalo, N. Y.
Sales Offices in Principal Cities

BREVITY—Identify by IEN-2012 if you write the maker

CONTROL . . Electronic equipment receives, holds, issues control signals

Source: ENGINEERING RESEARCH ASSOCIATES INC.
1900 W. Minnehaha Ave., St. Paul 4, Minn.

Magnetic Drum Storage designates a new assembly of two-arm drives, cylinder coated with magnetic material and mounted on bearings in a housing with an assembly of magnetic heads. These heads have "writing" coils to impress electrical impulses into the magnetic material as the drum is rotated. They also have "reading" coils to receive the impulses from the drum and transmit them for control purposes as predetermined at the time of "writing." The machine will take 16 heads per inch of drum width. Each head can impress or receive 80 impulses per inch of drum rotation. Combinations of impulses can represent decimal numbers, letters, symbols.

Capacity with a drum measuring 24 in. in diameter by 10 in. in length is for a million magnetic marks. These marks will remain on the drum indefinitely until they are purposely erased or altered by action through the heads. Each portion of the drum will be scanned every 61 milliseconds when driven at 940 rpm. As many as 120,000 groups of digits can be read and transmitted from the drum per second.

Brochure, 8 pages, "Magnetic Storage Systems," illustrates typical assemblies, provides technical data on construction, operation and touches on applications while inviting contact with interested organizations.

BREVITY—Identify by IEN-2013 if you write the maker

GAGE . . Pneumatic comparator unit reads over and under a set dimension

Source: PRATT & WHITNEY
49 Charter Oak Blvd., West Hartford 1, Conn.

Model F is a new design in the Air-O-Limit pneumatic comparator line with which inches or metric dimensions can be checked against a predetermined setting. The gage operates in a sealed unit that is not affected except for a negligible flow, to be installed separately. Within the sealed unit an adjustable restriction and a constant air flow, is so fitted into an adjusting screw and lock nut. Also enclosed is a pneumatic regulator with an adjusting knob.

On the top of the sealed unit is an air connection in the locating pins with its gold gasketed. At the front is a plug adapter. This unit can be operated to take from standard snap gage assemblies for plug series 0100 or a Jacobs chuck plug adapter for gaging plugs to 2.000 inch. Hand gage attachments are available for work that will remain stationary while the gage head is brought to it.

Applications include checking diameters and external diameters, straightness accuracy, wall thickness, taper, roundness variation. Applications include single and double-gage units, the latter to provide for taper readings in one assembly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

BREVITY—Identify by IEN-2014 if you write the maker

Keep heavy reels from tipping or wobbling with **DUFF-NORTON CABLE REEL JACKS**

These weather proof, non-rusting jacks provide rapid, even lifting and lowering and positive holding of heavy cable reels. They're dependable under most adverse field conditions.

Write for Catalog 203-G

THE DUFF-NORTON MANUFACTURING CO.
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"The House that Jacks Built"

BREVITY—Identify by IEN-2015 if you write the maker

Atlas 7" SHAPER

ATLAS PRESS CO.
Skilled Precision Tools for Woodworking and Metalworking

BREVITY—Identify by IEN-2016 if you write the maker

Smash small fires before they can grow!

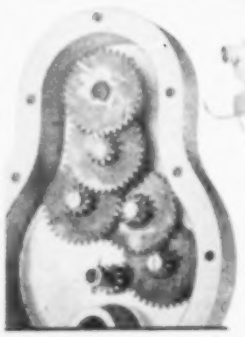
Knock small blazes out with the 5 pounds of CO_2 in a Kidde Model 5. Easy, simple trigger-finger control! Write for free literature.

Kidde

Walter Kidde & Co., Inc., 336 Main St., Belleville 9, N. J.

BREVITY—Identify by IEN-2017 if you write the maker

EASY-FLO ENDED FAILURES AND CUT COSTS ON THIS SPRINKLER



Brass gears in the popular AVON sprinkler were formerly attached by broaching square holes in them to fit square ends on the shafts and peening over the shaft ends. Cost high—failures frequent. Now—with EASY-FLO 45 wire rings precoated, gears are brazed to their shafts—in less than a minute for the whole train. Cost way down—no more failures. A Handy and Harman service engineer helped General Screw Machine Products work out the change to fast, reliable, low-cost EASY-FLO brazing. He's ready to do the same for you.

FIND OUT WHERE AND HOW you can improve your products and cut costs with EASY-FLO low temperature silver alloy brazing. We'll gladly send a service engineer with no obligation to you. Write or call today.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.
Sales Offices in Canada: HANDY & HARMAN of Canada, Ltd., Toronto

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Free

HELPFUL INFORMATION for PUMP USERS

Here is a new booklet that belongs in the files of every maintenance man and buyer of pumping equipment.

It describes how pump operators and leading pump manufacturers have successfully dealt with these long time enemies of pump life—corrosion, corrosion-fatigue, erosion and excessive wear.

Illustrated case histories drawn from important industrial fields may help you solve your own pump problems.

Send for your copy today. Ask for: *"How to Get Longer Service from Your Pumps."*

THE INTERNATIONAL NICKEL COMPANY, INC.
73 Wall Street, New York 5, N. Y.

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▼ BREITT—Identify by IEN-2020 if you write the maker ▼

BROWNING GRIPBELTS

—matched and sealed for your protection

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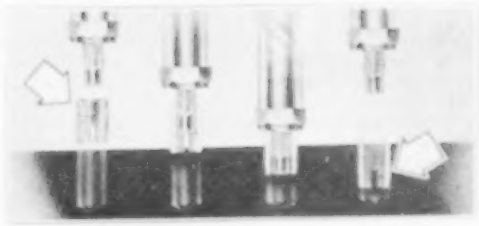
Nationwide service — write for the name of the BROWNING Gripbelt distributor near you.

BROWNING MANUFACTURING CO.
16 Chester Street Maysville, Kentucky

▼ BREITT—Identify by IEN-2021 if you write the maker ▼

FASTENING . . Self-tapping insert for thread anchorage in soft materials

Source: CROOV-PIN CORP.
2015 Kerrigan Ave., Union City, N. J.



Tap Lok (trade name new insert) that drives into a round or drilled hole in materials such as aluminum, magnesium, plastics, wood to provide secure threaded anchorage for screws, studs and also to permit their removal, assembly and disassembly. The insert is made normally of Type 18 stainless steel on machine screw, self-tapping screw, stud, machine stud on specific order. Sizes range from .164 in. #8 thread to 5/8 in. 24 thread externally by No. 4 to thread to 5/8 in. 24 thread internally. Length is .094 to 2½ inch.

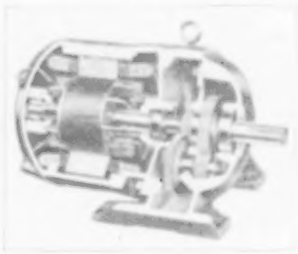
Application is with the aid of a driving tool as shown in the illustration. The company supplies the tool to match the given insert size. The insert can be run through in the hole as it is driven and at the same time the knurled thread-cutting segments are forced radially outward a little. This results in a stripping action on 1 helix. Load (lb) will be dictated upon the insert manufactured and screwed in that that will increase the anchorage grip in the soft material.

Bulletin, 4 pages, "Tap-Lok Inserts", provides information, description, size and material specifications and installation machine make, gives [illegible]

▼ BREITT—Identify by IEN-2022 if you write the maker ▼

MOTOR . . Geared head design, 1 to 75 hp., for 7.5 to 780 rpm.

Source: FOOTE BROS. GEAR & MACHINE CORP.
4545-7 S. Western Blvd., Chicago 9, Ill.



New assembly [illegible]

Bulletin GMA, 6 pages, describes the Gear Motor assembly, [illegible] Bulletin shows, provides data on the motor assembly, a sized [illegible] chart on the gearing.

All Makes of These And All Other Products Are Listed In THOMAS REGISTER . . Bearings . . Ratings . . See Page 10

▼ BREITT—Identify by IEN-2023 if you write the maker ▼

TWO HOSES...ONE LINE!

TWIN-WELD HOSE SPEEDS WELDING STOPS TANGLING

Patented Twin-Weld® combines a power to get line and a red gas line for welded into one rugged unit. No more dangerous tangled separate hoses. One operator has one hose, double gas leaking, one man means his welder. Faster welding efficient. Especially useful in close-quarter work. Call your Hewitt Rubber distributor, or write Hewitt Rubber Division, 230 Bennington Ave., Buffalo 1, N. Y.

HEWITT-ROBINS INCORPORATED

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LUBRICATION ECONOMY

LUBRIPLATE LUBRICANT

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LUBRIPLATE DIVISION

The Different LUBRICANT!

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New book "Concrete Floors" gives details—write TODAY for copy. Address Lone Star Cement Corporation, Room 2222, 342 Madison Ave., New York 17, N. Y. Also see pg. 10

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QUALITY

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- If famous finished tool manufacturers pin their reputation to Molybdenum high speed steels, why don't you cash in on these cost-cutting tool steels?

Our FREE booklet gives full information data, tests, heat treatment—write now.

This book sent to you FREE

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FOR COMPRESSED AIR

EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N.Y.

ADAMS *Poro-Stone* AIR FILTER

▼ BREVITY—Identify by IEN - 2029 if you write the maker ▼

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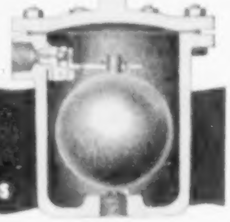

with CRANE automatic vent and drain valves

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Liquid in air lines ... or air in liquid systems ... can seriously hinder piping efficiency and lower your productivity. Either of these conditions can be remedied easily and economically by equipping piping systems with Crane Automatic Air Vent or Water Drain Valves.

Moderately priced and easy to install, these valves require only routine maintenance ... quickly pay for themselves in reduced labor costs, and by more effective application of fluid services. For complete information, see your new Crane Catalog, or ... WRITE FOR CIRCULAR AD-1815.

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 18 MARCH, 1950 No. 3

Security

We present in this little piece a picture of the word "security" as it has been defined by Wallace F. Bennett, President of the National Association of Manufacturers. We do this because most of you have been working so intently at your jobs that you have had no time to listen to things being said on the outside. You may not have heard the voices defining security along new lines.

There are such voices. They are saying we need not work so hard, that enterprise is no longer important, that the thing today is to stop and divide up all we have made rather than to work harder than ever, that bureaus and services and programs can take over our personal responsibilities of decision.

At the moment you are free to decide upon your own definition. We spell it out here, Mr. Bennett's way—

"S" says that security is spiritual, that man finds it in his own heart or there is none.

"E" in security relates to enterprise, our ability to get things we need when we need them, our productive capacity in an ever-expanding economy, individual free enterprise.

"C" stands for courage, character, confidence, essential in operating our businesses in the interests of all who expect to find security in them while, at the same time, we create the kind of two-way confidence between management and workers so all are content and have faith in the enterprise system.

"U" is understanding of the fact that ours is still a democratic country and that the basic decisions are made by the votes of its people, that numerically management and ownership of industry are so weak that the only hope, politically, to preserve the basic freedoms of enterprise is to attract to its support the men and women who work in it.

"R" is responsibility and risk, both of which are a part of the price for freedom. A part of the philosophy on which this country was founded was that each individual citizen had enough of the sense of responsibility to carry the fundamental political decisions, to make them properly, and that it is not possible to give up that responsibility and still remain free. Risk goes hand in hand with responsibility because if freedom is the right to have a choice, one price is the responsibility for making the right choice and the other is the risk for making it wrong. Only free men can carry responsibility and take risks.

"I" stands for integrity, initiative, industry and imagination. No man can be secure without individual integrity and there can be no security without the kind of growth that comes from initiative, industry and imagination. Any man who uses his individual integrity and surrenders the right of important personal decision to another is not a free man. We must employ initiative, imagination, inspiration to see the workers as individuals rather than as counterparts of machines and help them preserve their integrity.

"T" stands for the truth, that security and freedom are not antagonistic, that you cannot buy security by the sacrifice of freedom, that security and freedom actually are synonymous.

"Y" points the finger straight at you, at each of us. It says there can be no security in America unless we do something about it, each in his own organization.

W. E. Irish.

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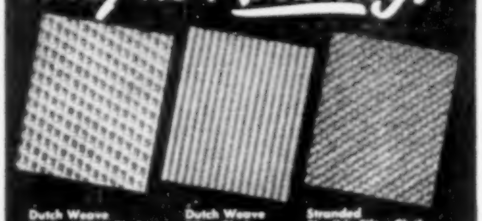
FOR METALLIC FILTER CLOTH...
Today it's Roebling!



WHATEVER your requirements, Roebling can supply Metallic Filter Cloth woven of the right metal or alloy, and in the right weave and mesh for topmost efficiency and service life. The weaves illustrated above provide the extra strength needed for higher pressure or vacuum. They are adaptable for almost any type of filter ... smooth-woven and easy to clean ... provide free discharge of filtrate, and hold back the finest solids.

Send for full information about Roebling Metallic Filter Cloth. We shall be very glad to discuss your special problems and to furnish samples.

WOVEN WIRE FABRICS DIVISION
JOHN A. ROEBLING'S SONS COMPANY
ROEBLING, NEW JERSEY

A CENTURY OF CONFIDENCE

▼ BREVITY—Identify by IEN - 2031 if you write the maker ▼

Ask Our Specialist On SEALMASTER BALL BEARING UNITS

About SEALMASTER Performance

Just say the word and your SealMaster engineer will show you how and why SealMaster Ball Bearing Units help make machinery run longer, smoother and with less maintenance. If you have a special bearing problem put it up to him. You'll find his recommendations mighty helpful. Here are 3 reasons why you're better off with SealMaster.

1 PERMANENTLY SEALED—Felt-lined steel flinger rotating in labyrinth keeps out dirt and keeps in proper amount of lubricant.

2 SELF-ALIGNING—Bearing unit with seals independent of housing, can align itself in any direction without seal distortion.

3 PRE-LUBRICATED—Proper amount of grease is put in bearing chamber before it leaves the factory.

Write for catalog 845

- Pillow Blocks
- Flange Units
- Take-up Units
- Cartridge Units
- Hanger Units
- Flange-Cartridge Units

Bearing Division
STEPHENS-ADAMSON Mfg. Co.
291 Ridgeway Ave. Aurora Illinois · Los Angeles Calif. · Belleville Ont.

Factory Representatives and Dealers in All Principal Cities

▼ BREVITY—Identify by IEN - 2032 if you write the maker ▼

WHEN YOU ...
Disconnect, You Stop the Flow in *Both* Ends

Whenever the flow of air, fluids or gases must be interrupted, Wiggins INST-O-MATIC couplings are lowering costs. Uncouple a Wiggins. You've automatically stopped the flow in both ends. Connecting, or disconnecting, is as simple as switching on a light. Wiggins INST-O-MATIC couplings can increase efficiency in your plant today, and lower costs.

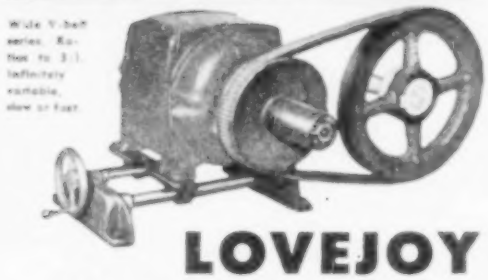
EQUIPMENT MANUFACTURERS

Wiggins

QUICK DISCONNECT
INST-O-MATIC COUPLINGS

▼ BREEZE—Identify by IEN-2033 if you write the maker ▼

Multiply your machine services AT LOW COST!



LOVEJOY VARIABLE SPEED PULLEYS

For duties fractional to 8 h.p. Available from stock. Easily installed with equipment old or new. Compact. Simple. Ruggedly built. Time Savers! Money Savers!

Ask for Complete Catalog.

LOVEJOY FLEXIBLE COUPLING CO.

5014 W. Lake Street, Chicago 44, Ill.

Also Mfrs. Lovejoy Flexible Couplings and Lovejoy Universal Joints.

▼ BREEZE—Identify by IEN-2034 if you write the maker ▼

S-A WINCHES

Save time and men

AT LOWEST COST

Don't take high-pay men from their regular jobs to lift or move heavy loads. It saves time and money to do most lifting and pulling jobs with an S-A Winch.

One man—with a hand winch—can lift as much as a ton—up to 5,000 pounds with an S-A Motor Winch. Car spotting costs this economical way!

Write for Winch Bulletin 340 and consider possible savings.

STEPHEN S-A DAMSON

Telleval Bin Level Controls • Car Loaders
SACO Speed Reducers Car Pullers • Winches
SealMaster Ball Bearings

231 Ridgeway Ave., Aurora, Illinois

▼ BREEZE—Identify by IEN-2035 if you write the maker ▼

NEAT, TIGHT HOSE JOINTS IN SECONDS WITH 2 NEW TOOLS

FOR PRODUCTION

Turret machines (with hose connecting tools forward). All powered, fast cycling. Thousands of connections per day effortlessly. Full range of hose sizes available. Write for complete catalog data sheet.

FOR MAINTENANCE

Works on new equipment. Do-it-yourself pressure adjustment quickly for minimum cost of hoses. Or transport tools to equipment. Tools are lightweight, low cost, easily used. Write for complete catalog data sheet.

For best results, use Schrader Hose Ferrules and Hose Couplings.

Schrader PRODUCTS CONTROL THE AIR

A. SCHRADER'S SON

476 Vanderbilt Avenue
Brooklyn 17, New York Dept. IN-2
Division of Scovill Manufacturing Company, Incorporated

▼ BREEZE—Identify by IEN-2036 if you write the maker ▼

CONTAINER . . Electric lunch box warms food in insulated compartment

Source: ELECTROLUNCH CO.
9302 Stone Road, Algonac, Mich.

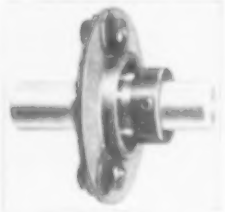
New design in the company's Electrolunch box for workers is made of aluminum and measures 12 by 5¾ by 5¾ inches. The lateral space provides 3 lb. of the snacks to pack cold foods, the rest is an insulated compartment with two cover-supported aluminum containers and a glass container, the latter holding two cups of liquid.

An electric element is associated with this compartment and is provided with thermostat control to raise the temperature to 140 deg. F. in about 15 min. and hold it there when the extension cord is plugged in. The box is available for operation on 6, 12, 80 or 110-volt ac. or dc. The company is prepared to supply a shelf-type cabinet with plug-in connections and a timer to hold and heat 24 of the boxes.

▼ BREEZE—Identify by IEN-2037 if you write the maker ▼

BEARING . . Self-aligning ball unit, sealed design, mounted in steel flanges

Source: FAFNIR BEARING CO.
35-39 Booth St., New Britain, Conn.



Flangette (trade name) new assembly of one of the company's Wide-Inner-Ring factory lubricated and sealed ball bearings of self-aligning design and a pair of pressed steel flanges. The flanges provide ready means for mounting in a machine or a unit of equipment. Sizes range to 18 steps from ½ to 2½ in. bore.

▼ BREEZE—Identify by IEN-2038 if you write the maker ▼

STARCH . . Hydrophobic powder for rubber dusting, detackifying uses

Source: NATIONAL STARCH PRODUCTS INC.
270 Madison Ave., 10th Fl., New York 16, N. Y.

New available for research

Dry Flo (trade name) new derivative of corn starch in the form of a finely divided powder with a silky texture. It is free flowing to the extent that in many ways it behaves like a liquid. Each starch granule is coated with water-repelling hydrocarbon radicals so the product cannot be wetted by water or gelatinized by heating in water. It floats on the surface without clumping.

If added to water-insoluble solvents it will remain wetted by the solvent even though agitated in the presence of water. It can be wetted and gelatinized by heating when mixtured with alcohol or other water-miscible solvents. Dry films of the cooked product have moderate water resistance.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 16

▼ BREEZE—Identify by IEN-2039 if you write the maker ▼

TROMBETTA SOLENOID CO.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

▼ BREEZE—Identify by IEN-2040 if you write the maker ▼

There's a CHROMALOX Unit made to fit most parts requiring heating equipment. Whether it's panel units or units being buried, you can fit it economically and efficiently with these amazing, easy-to-install heaters. Find out for yourself how CHROMALOX Electric Heat can save time and money in your plant.

FOR THE FACTS ABOUT ELECTRIC HEAT

Send for the new Heat Bulletin. 100 Pages of Application Data. It's yours for the asking.

See Chromalox Heavy Duty Electric Heaters Advertisement, Page 17.

EDWIN L. WIEGAND CO., 7101 THOMAS BLVD., PITTSBURGH 8, PA.

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▼ BREEZE—Identify by IEN-2041 if you write the maker ▼

Interchangeable PUNCHES and DIES

HAS THEM

If you require either Ⓐ standard round punches (for piercing up to ¾" thickness) or Ⓑ heavy duty round punches (for sizes ¾ & over) are available in either water hardening tool steel or high speed steel. With this broad selection you can economize on nearly all your piercing applications by relying entirely on Ⓑ punch and die interchangeability.

If you have questions regarding which type of steel, standard Ⓐ interchangeable punch she's best suited to your needs let our engineering staff help you. Or, if you need special punches or dies, with or without the Ⓑ interchangeable feature, Ⓒ we can produce them promptly — in any size, shape or material.

Get your complete story in the free catalog.

ALLIED PRODUCTS CORPORATION

Department 41 • 12615 Burt Road • Detroit 23, Mich.

▼ BREEZE—Identify by IEN-2042 if you write the maker ▼

←Compact!→

ELECTRIFUGAL PUMP UNIT CONSTRUCTION CUTS COSTS

Pump and motor are built on one shaft for permanent pump alignment. Compact design saves floor space. Impeller is mounted on a single pump shaft. Pump and motor are balanced as a single unit. To remove impeller, lift up motor and wiring—you don't need to move the rest of the pump.

This pump has been put to work for Barnes-Gogel with high pressure spring hydraulic jack applied.

Flooded suction pump. Pump is by long grain, length 30 feet. See your Allis-Chalmers Authorized Dealer or Sales Office or write Ch. Bulletin 5-1000.

ALLIS-CHALMERS, 900A 50. 70 ST.
MILWAUKEE, WIS.

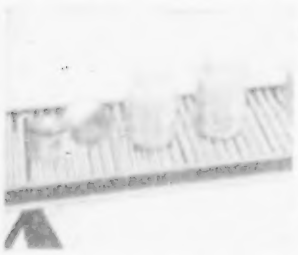
ALLIS-CHALMERS

IEN-2043

GRAVITY CONVEYOR

FOR

SMALL ITEMS



OD ROLLERS SPACED 14 TO THE FOOT

Puts Gravity Power to Work for—
Manufacturers of—
- Confections
- Packaged Foods
- Drugs & Cosmetics
- Small Metal Parts
- Die Castings, etc.

Use "Free Gravity Power" in Production Lines

SPECIFICATIONS ON REQUEST

METZGAR

METZGAR CO.
417 DOUGLAS N.W.
GRAND RAPIDS 4, MICH.

IEN-2044

Send for Bulletin MF-1 describing the design of American Monorail Rail Crane

THE AMERICAN MONORAIL COMPANY
1010 Rockwell Avenue • Cleveland 7, Ohio

IEN-2045

New
STAINLESS TUBING
Data File

Return coupon for your copy

THE CARPENTER STEEL COMPANY

NAME
COMPANY
ADDRESS
CITY ZONE STATE

IEN-2046

CONVEYING . . Vibrating trough, motor driven on coil spring mounting

Source: STEPHENS-ADAMSON MFG. CO.
231 Ridgeway, Aurora, Ill.

IEN-2047

CLEANING . . Steam spray machine delivers hot solvent at high pressure

Source: HOMESTEAD VALVE MFG. CO.
P. O. Box 85, Corapolis, Pa.

Normal mixture

The machine converts

Bulletin

All Models of Tools And All Other Products Are Listed In CHEMICAL ENGINEERS' DIRECTORY — Buyers' Guide — See Page 87

IEN-2048

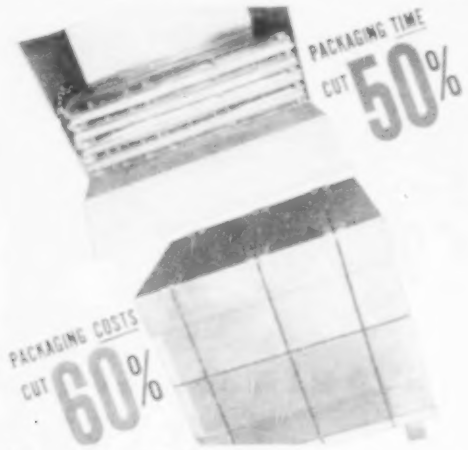
JUST SAY "TRUSCON" AND THERE'S A BUILDING

Most today's needs for efficient manufacturing and storage facilities with Truscon Ready-Made Steel Buildings. These standard and prefabricated structures can be combined in innumerable ways to form buildings for many purposes. Features include fire resistance, economy, ease and speed of erection, low upkeep, low cost and high recreation value. They can be dismantled and re-erected quickly and easily with no loss of materials.

FREE BOOK! Shows actual installations and interesting details to help you in planning your plant.

TRUSCON STEEL COMPANY
YOUNGSTOWN 1, OHIO • Subsidiary of Republic Steel Corporation

IEN-2049

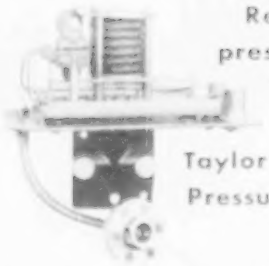


How one manufacturer saves with STANLEY STEEL STRAPPING

STANLEY

Steel Strapping and Car Sealing Systems
HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

IEN-2050



Read changing pressures instantly 1000 ft. away with new Taylor "TRANSAIRE" Pressure Transmitter

7 IMPORTANT ADVANTAGES:

TAYLOR INSTRUMENTS MEAN "ACCURACY FIRST"

IEN-2051

for
- SPRAYING
- WASHING
- RINSING
- COOLING
- AIR CONDITIONING

Use the most out of your Spraying Equipment with minimum power . . . with efficient spraying. Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.

Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for Bulletin N-616.

YARWAY

SPRAY NOZZLES

YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

IEN-2052

FREE . . . Gear Specification Sheets to help you in ordering gears. Six-dozen in each set. Includes drawing of different type gears.

GET YOUR SET NOW!

SEND PRINTS

AUTO ENGINE WORKS
341-A NORTH HAMLINE AVE. • ST. PAUL 4, MINN.

IEN-2053

PACKINGS FOR EVERY NEED

Every Industrial Field saves money with U. S. Rubber Rod and Plunger Packings

You get absolute uniformity of compounds from rod and cord, moulded of the same U. S. Rubber Company packings. Some "U. S." formulas are designed for use against hot or cold water or aqueous solutions and all hydraulic conditions. Others are U. S. packings that handle fluids and gases up to 5,000 pounds U. S. industrial pressure. Laboratory tests are backed than actual conditions show more and nothing can do the proper job. Whatever your packing problem, it will pay you to consult a "U. S." representative. Write to Mechanical Goods Division, United States Rubber Company, Rockefeller Center, New York.

UNITED STATES RUBBER COMPANY
ROCKEFELLER CENTER, NEW YORK 20, N. Y.

IEN-2054

GET RID OF WIRES

and get foolproof connections in

RADIOS
AMPLIFIERS
SWITCHBOARDS
METERS

Print your circuits with Du Pont Conductive Coatings—reduce costs and time

Highly conductive coatings of low resistance are easily obtained by spray, brush, dip or stencil to metals and non-conductors. These coatings can be used to make economical, lightweight, compact high-voltage capacitors; static shields to replace usual cans and foils; resistors and solder seals. For more information, send for Bulletin CP 2.1248. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Del.

DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

IEN-2055

DRILLING . . Centrifugal feed head operates at 3,450 rpm., 1¼ in. feed

Source: COVRO-NELSON CO.
1922-33 Antoinette St., Detroit 8, Mich.

Model KH . . .

Bulletin 5 gives "Automatic Drilling and Tapping Units" . . .

IEN-2056

POWDERED METAL . . Stainless steel has good strength prior to sintering

Source: AMERICAN ELECTRO METAL CORP.
318-22 Yonkers Ave., Yonkers 2, N. Y.

The powder metal . . . Compatibility . . .

is non-corrosive . . .

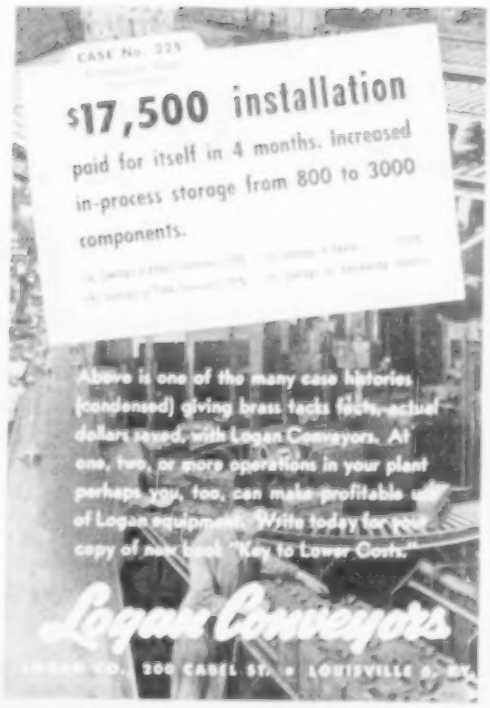
IEN-2057

INSULATING . . Vibration isolator functions at minus 100 to plus 500 deg. F.

Source: CONNECTICUT HARD RUBBER CO.
405-9 East St., New Haven 9, Conn.

Silicone rubber . . .

IEN-2058



IEN-2059

Write for this new catalog

The new LN Optical Pyrometer catalog is out of the press. It gives full details on LN Optical Pyrometers with ranges of 1400 to 5000 F. suitable for sighting on white-hot metal. It contains 32 pages with illustrations and specifications. The catalog describes the use and special features of the instrument, gives typical applications and sets up the principles of optical pyrometry. It is free on request . . . just ask for catalog N-210. Write Leeds & Northrup Company, 4901 Stenton Avenue, Philadelphia 44, Penna.

LEEDS & NORTHRUP CO.

IEN-2060

GOT YOUR COPY?

unusual applications of ROLLER CHAINS

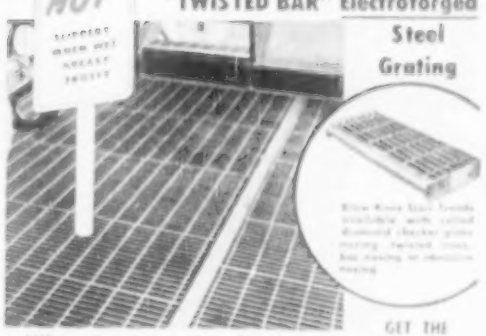
Here is a new book you'll surely want . . . titled "Unusual Applications of Roller Chains." It's packed with a variety of photographs, drawings and recommendations for roller chain or drives, conveying and construction applications. There are pleasant surprises when between these covers.

If you have not received your free copy, send for it today, using coupon below.

And so obviously we're planning to publish a supplement to this book soon, to stress known of new unusual applications that might be of general interest, so I'm glad to hear from you.

BALDWIN-REX ROLLER CHAINS

IEN-2061



Because it's BLAW-KNOX "TWISTED BAR" Electroforged Steel Grating

THE twist from the thick twisted bar cross members, gives strength, stiffness, makes diagonal connections, and, in the grating in use, assists in self. The rigidity strengthened surface also helps for extra safety and the overall surface is level. Tracks and other wheeled vehicles run more. In addition, Blaw-Knox steel grating is always longer than your requirements strength and durability.

OTHER ADVANTAGES: Maximum open area for light and air. Differential rate of maximum economical overall.

GET THE FACTS FROM BULLETIN 2296

The new bulletin gives complete details, specifications, capacities and all the measurements and advantages of Electroforged Steel Grating. Check the coupon below today.

BLAW-KNOX DIVISION of Blaw-Knox Company
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX ELECTROFORGED STEEL GRATING

▼ BREVITY—Identify by IEN - 2062 if you write the maker ◄▼

THOMAS TRUCK of Keokuk **Heavy Duty**

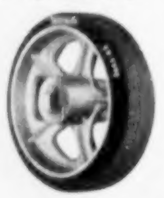
TRUCK CASTERS

- Double Ball Bearing Swivel
- Smooth Face Metal or Rubber Wheels
- Bolt and Sleeve Axle
- Hardened Steel Balls

Easy spinning and rolling features these husky Thomas truck casters. Side thrust is carried by the small row of balls against the solid part of top plate. All castings of strong semi-steel, designed for floor truck service. Ribbed forks. Grease gun Fittings. Write for catalog.

THOMAS TRUCK of Keokuk **Rubber Wheels**

for FLOOR TRUCKS



- Easy rolling tires — resilient tread
- Prevent floor damage
- Molded-on type — long life
- Strong one-piece wheel casting

Replace worn, rough floor-damaging wheels with soft, resilient rubber wheels that roll quietly and easily over all kinds of floors, saving time and effort, reducing breakage. Write for catalog.

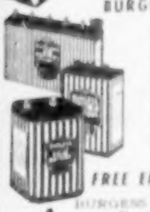
Representatives in all principal cities
Write for Trailer Catalog

THOMAS TRUCK & CASTER CO.
529 MISSISSIPPI RIVER, KEOKUK, IOWA

▼ BREVITY—Identify by IEN - 2063 if you write the maker ◄▼

"A," "B," OR "C"... WHAT ARE YOUR INDUSTRIAL BATTERY NEEDS?

BURGESS MAKES A COMPLETE LINE



Down through the years Burgess engineers have been at work solving the unique problems of industry with a complete line of better, higher-grade "A", "B", and "C" batteries. In addition, Burgess has developed hundreds of quality batteries to meet new industrial applications. The battery you need will be among them!

FREE ENGINEERING SERVICE

BURGESS Services—Design ... Engineering ... Production—are at your disposal to provide the battery you need in the quantity you need! Send for FREE "Check Sheet" to outline your requirements!

BURGESS
BATTERY COMPANY
FREEPORT ILLINOIS

▼ BREVITY—Identify by IEN - 2064 if you write the maker ◄▼

BETTER LOOKING... better than ever!

GAST rotary AIR PUMPS

NOW—THE SAME DEPENDABLE GAST ROTARY PUMPS + IMPROVED HOUSING DESIGN = FIVE EXTRA ADVANTAGES ...

1 ... New fin housings provide greater cooling surface
2 ... Streamlined appearance ... sleeker, better looking
3 ... Same mounting dimensions ... interchangeable with older Gast models
4 ... More compact than ever ... total height is lower
5 ... Improved port design

As original equipment, GAST rotary design Air Pumps offer greater-than-ever values ... improved salability for your product. All compressors in 5 sizes provide positive pressure range up to 30 P.S.I. ... displacement to 21 C.F.M. Dry Vacuum Pumps in 5 sizes produce vacuum to 28 inches ... displacement to 21 C.F.M.

WRITE FOR NEW CONDENSED CATALOG—BULLETIN 549-A

"AIR may be your Answer!"

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP. 128 Hinkley St., Benton Harbor, Mich.

▼ BREVITY—Identify by IEN - 2065 if you write the maker ◄▼

VALVE . . Hydraulic pressure relief, three sizes to 80 gpm., 1,650 pounds

Source: HYDRAULIC EQUIPMENT CO.
1102 E. 222nd St., Cleveland 17, Ohio

Series VR is a new valve employing a differential internal piston to permit the use of a relatively small pressure-adjusting spring and to provide a dashpot action that will eliminate any tendency to chatter. At the same time the piston design and port arrangement provides full-line area for relief action when the set pressure is exceeded. The valve has three pressure connections in the bottom and sides of its base. These all measure ½, 1¼ or 1½ in. in the three valve sizes. The single return-to-tank connection in the side of the head measures ¾, 1½ or 2 inches. Overall length is about 8¼ to 12¼ inches.

Adjustable pressure range is 400 to 850 lb., and 800 to 1,250 lb. on each of the three sizes with fluid capacities from 5 to 15 gpm., 15 to 50 gpm. and 50 to 80 gpm. It is 1,200 to 1,650 lb. on the small and intermediate sizes. Maximum inlet pressure in all cases is 1,650 pounds. The valve can be dead ended on a pressure line between a pump and operating valve to relieve pressure back to the supply tank. It can be connected in and out in the pressure line through the two side connections in the base. In operating a double-acting cylinder, it can be connected through its base to one side of the cylinder from the operating valve to limit pressure to that side. In each case the idle pressure connections are plugged.

▼ BREVITY—Identify by IEN - 2066 if you write the maker ◄▼

BATTERY CHARGING . . Control unit for sequencing the charging operation

Source: HERTNER ELECTRIC CO.
12688-92 Elmwood Ave., Cleveland 11, Ohio

Double-Duty Charge Control is a new assembly of contactor, timer, switching relays and an additional charging cable for assembly with one of the company's Type-KX or Type-HX battery chargers. Its addition permits connection of two batteries, one to the charger and one to the outlet from the new control, so first one and then the other of the two will be brought up to full charge without operator attention. Overall interval for the two is about 16 hr. for a fully discharged lead acid battery, 14 hr. for an Edison.

The control provides the required additional charging outlet and takes over the switching operation from one battery to the other when one has reached full charge. It shuts down when the second one has been charged also. Application can be made on new chargers made by the company and on the two types named that are now in service and that were manufactured since December 1, 1948.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 89

▼ BREVITY—Identify by IEN - 2067 if you write the maker ◄▼

Platform Loading Dock

Two-Post Platform Dock

WAYNE INDUSTRIAL HOISTS

. . INCREASE PRODUCTION. Cut Handling Costs. There is a Wayne Hydraulic Hoist for every need. Write for bulletins today.

Hoist for Newspaper Rolls

Wayne Tilting Dock Ramps

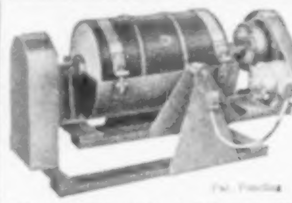
Sidewalk Elevator

THE WAYNE PUMP CO., FT. WAYNE, IND.
531 TECUMSEH STREET

NATIONWIDE SERVICE

▼ BREVITY—Identify by IEN - 2068 if you write the maker ◄▼

ARLINGTON BARREL *and* DRUM TUMBLER

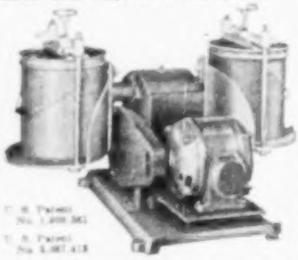


Pat. Pending

SPECIFICATIONS: Cradle of drum holder accommodates 55-gal. drum. 30-gal. drum or smaller by use of specially made inserts or partitions. 48 in. long x 30 in. wide x 33 in. high. Weight 1100 lbs. (1306 crated). Motor 1 h.p., 220 V., 1750 r.p.m.

For mixing and liquefying up to 55 gallons

Fabricated steel; rocking drum from end to end while it is making complete revolutions on its axis, mixing and blending wet or dry materials, uniformly and thoroughly.



U. S. Patent No. 1,898,361
U. S. Patent No. 2,087,418

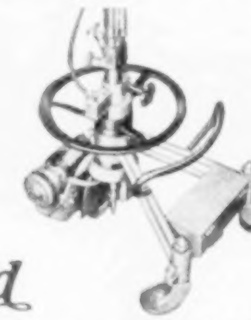
Arlington Giant Paint Restorer

1 h.p. 220 V., 1725 r.p.m. Capacity: 2 5-gal. cans. Each 5-gal. holder accommodates 2 1-gal. cans or several smaller cans. GIANT PAINT RESTORER also to be had with only one holder and with ⅓-h.p. motor to be plugged into any light socket.

Prices on application.

ARLINGTON, INC.
(FORMERLY ARLINGTON MACHINE WORKS)
674 Jenks Ave. Established 1912 St. Paul 6, Minn.
Distributorships and dealerships still available in new territory

▼ BREVITY—Identify by IEN - 2069 if you write the maker ◄▼



Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand guided, it cuts irregular shapes. Operated on track, this machine cuts straight lines. Adapters are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4467.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▼ BREVITY—Identify by IEN - 2070 if you write the maker ◄▼

ENDS ALL SLIPPING HAZARDS *in a* **County of San Diego Hospital!**

PABCO GRIP-TREAD MASTIPAVE

Non-Slip—Wet or Dry

AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

The Safety Floor with "BUILT-IN BRAKES"

EVERY BUILDING NEEDS PABCO MASTIPAVE

SEND NOW FOR THE FULL STORY OF MASTIPAVE!
Mail to Dept. E, nearest office
THE PARAFFINE COMPANIES, INC.
New York 16 · Chicago 54 · San Francisco 19

SAVES UP TO 50% ON FASTENINGS IN LIGHT GAUGE SHEET METAL

The Original P-K Sheet Metal Screw

SKIPS
Tapping — Forms Own Threads

AVOIDS
Bolting
Riveting
Soldering

SAVES
Time and Trouble in Millions of Assemblies.

P-K TYPE A Hardened SELF-TAPPING SCREW

One of many types of Parker-Kalon Self-tapping Screws for fastening stamped metal and plastic assemblies. For details, write Parker-Kalon, 200 Varick St., New York 14, N. Y.

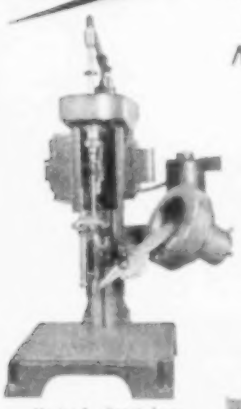
Call in a P-K Assembly Engineer
See why industry's fastening-wise leaders say —
IF IT'S P-K® — IT'S O.K. — THE ORIGINAL
PARKER-KALON® SELF-TAPPING SCREWS

AVAILABLE EVERYWHERE THROUGH ACCREDITED DISTRIBUTORS

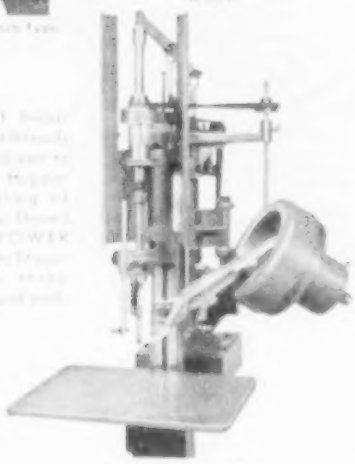
▼ DETAILS—Identify by IEN-2071 if you write the maker ▼

YOU, TOO, CAN — SPEED PRODUCTION AND CUT ASSEMBLY COSTS ...

by this MODERN Machine Method



Model A—Basic Type



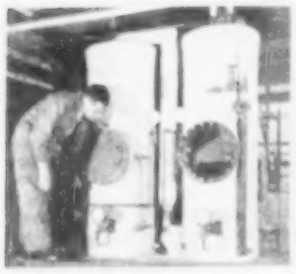
Model B—Pedestal Type

DETROIT POWER SCREWDRIVER CO.
2875 WEST FORT ST. DETROIT 16, MICH.

▼ DETAILS—Identify by IEN-2072 if you write the maker ▼

WATER TREATING . . Evaporator-distiller removes salt from water

Source: MAXIM SILENCER CO.
83-87 Homestead Ave., Hartford 1, Conn.



Fresh water is a purity of 2 grains of salt per gal., or 10 grains better than the set for potable water by the U. S. Department of Public Health. It produced from sea water by this equipment. It was developed primarily for marine service, has been in active use for the past two or three years. It is applicable now for general industrial use where fresh water is required from a salt water source.

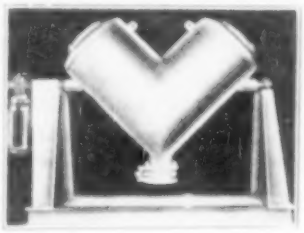
Capacities range from 1,000 gal. of water per day from a single-effect unit to 30,000 gal. from a 3-effect-type unit. The one-effect is the simplest, a compact unit, varies 1,000 gal. It supplies water from 4 ft. 10 inches height and occupies floor space 4 ft. 2 ft. of floor space. Dimensions are in Metric parts. A source of supply for low pressure steam is required, and one 125 watts motor, 60 cycle, 1 ph. 110 volts electric supply.

Bulletin. ® Bulletin 10-1950 Maxim Evaporator-Distiller describes construction and operation, gives dimensions, data, drawings and section views of the equipment for marine use.

▼ DETAILS—Identify by IEN-2073 if you write the maker ▼

MIXING . . Motor driven blender for dry materials of varying character

Source: PATTERSON-KELLEY CO.
129-33 Lackawanna Ave., East Stroudsburg 6, Pa.



Twin Shell design is a new design of mixing equipment to blend dry materials to the customer specification of cooling, tumbling and folding. The equipment consists essentially of an elbow shaped housing made of steel, stainless steel or non-ferrous metal shell. Stub bearings on the two outer ends and a butterfly valve at the center. The housing is mounted to rotate on a pair of supports. A motor is connected direct or through gearing depending on size. It is brake equipped so it can be inched and stopped for loading and unloading.

The interior of the housing is smooth and free from obstructions, the mixing movement being the only means required for the mixing action which is sufficiently gentle as regards attritions will not be broken down. Twelve sizes in the line cover 1 to 250 cubic feet in work capacity and are driven by ¼ to 20 hp. motors. Rotating speed is 55 rpm. on the smallest, 8 rpm. on the largest. Top diameter is 11½ to 72 inches. Base to shaft center line is 28½ to 100 inches. Discharge opening is 8 to 12 inches.

Catalog Section 601. 4 pages comprehensive and describes the equipment, mentions use from one to a range of materials.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

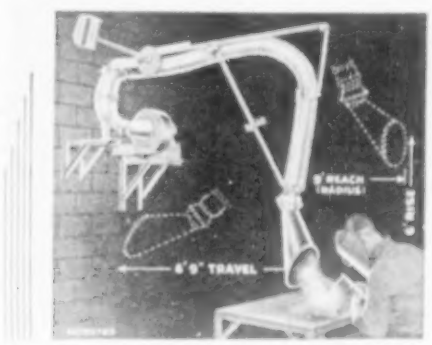
▼ DETAILS—Identify by IEN-2074 if you write the maker ▼

Is this the solution to your lubrication problems, too?

Write for these FREE bulletins

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

▼ DETAILS—Identify by IEN-2075 if you write the maker ▼



RUEMELIN Fume Collector

Removes Welding Fumes at the Source . . .

Why continue to let your employees inhale welding fumes? You can solve the problem quickly and efficiently by installing a Ruemelin Fume Collector. It produces a powerful suction that draws off noxious gases, smoke and heat at the source. Guards employees health, resulting in less welder fatigue, therefore, greater plant output. Clears shop air with minimum loss of heating heat. Covers maximum welding area vertically, horizontally and by circle swing. Shipped assembled, easy to install. 8 ft. and 12 ft. arm radius of swing.

Free engineering advice for your fume collector problem. Write for New Bulletin 27-E.

RUEMELIN MFG. CO.
3901 N. PALMER STREET MILWAUKEE 11, WIS., U. S. A.
MANUFACTURERS AND ENGINEERS — SAND BLAST AND DUST COLLECTING EQUIPMENT — WELDING FUME COLLECTORS

▼ DETAILS—Identify by IEN-2076 if you write the maker ▼

To select the proper drive for any type of service

Get your copy of the latest Cleveland catalog for full information on all standard worm gear speed reducers, including sizes, dimensions and ratings. Ask for Catalog 300 for Industrial Service, Catalog 300-W for Small Standard and Catalog 300-Sp for Special Applications. Ask for Catalog 300-Ser for Service Station Equipment. Ask for Catalog 300-Ser for the complete The Cleveland Worm & Gear Co., 3249 E. 80th St., Cleveland 5, O.

CLEVELAND Worm Gear Speed Reducers

▼ DETAILS—Identify by IEN-2077 if you write the maker ▼

Add these PROFIT MAKERS to your Shipping Room Crew

PUT SIGNODE STEEL STRAPPING to work protecting your boxes, bags, bundles or crates against shipping damage — increasing man-hour output in your shipping department — speeding delivery — building customer good will — cutting costs.

PUT YOUR PACKAGING METHODS ON A FAST PRODUCTION LINE BASIS with the new scientifically designed strapping tool—the Signode A-2 sealer, and tool machine. This one tool tensions, seals, cuts in three easy strokes, and for big volume operations. Other Signode tools, equally modern and efficient, for every strapping need. Write for full details.

SIGNODE STEEL STRAPPING COMPANY
2611 North Western Avenue — Chicago 47, Illinois

▼ DETAILS—Identify by IEN-2078 if you write the maker ▼

▼ DETAILS—Identify by IEN-2079 if you write the maker ▼

▼ REPRINT—Identify by IEN-2080 ▼

New **ROSS** *"Water-Saver" Valve*

CUTS COOLANT COSTS!

Instant Cut-Off Assured

How much of expensive coolants can be eliminated — then use purified to required percent?

The Ross "Water-Saver" or Time Gang Valve is the answer. It turns on the coolant and lets it run when needed. Then automatically shuts it off. The flow can be maintained for any period from 2 seconds to 2 minutes after the machine cycle.

Operation of the valve is entirely automatic. No electrical or mechanical operation is required since it is activated by cylinder pressure.

The Water-Saver Valve is a straightway or shut-off valve, normally open or closed to water supply, and is available in ½ to 1½ pipe sizes.

Get complete details today — no obligation whatsoever.

ROSS OPERATING VALVE COMPANY

1120 E. GOLDEN GATE AVE. DETROIT 3, MICHIGAN

▼ REPRINT—Identify by IEN-2081 ▼

Built for your Protection

Wagner totally enclosed, fan cooled motors are designed for a particular purpose — to operate efficiently and safely in atmospheres filled with dust, lint, gasoline, explosive gases and combustible substances. These motors are approved by Underwriters' Laboratories for Class I Group D and Class II Groups E, F, and G hazardous locations. They are available in ratings up to 100 horsepower and are wound electrically to suit a wide variety of application requirements.

Twenty-one branch offices, located in principal cities, are ready to help you without obligation whenever you have a motor problem. Cities of Wagner Motors also provide 50 nationwide service locations. Write for Bulletin MU-107 for information on the complete line of Wagner Motors.

Wagner Electric Corporation

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

▼ REPRINT—Identify by IEN-2082 ▼

BIN-FLO

Provides
STEADY FLOW
of Bulk
Materials

New vibrating flexible provides uniform steady flow of most dry, free-flowing materials from bins, hoppers, chutes, and silos.

BIN-FLO units are installed in minutes. Flow is controlled by BIN-DICATORS.

THE BIN-DICATOR COMPANY
12246 Kercheval Avenue Detroit 15, Michigan

▼ REPRINT—Identify by IEN-2083 ▼

MARKING . . Press assembly of dies, index plate and color foil

Source: ACROMARK CO.
7 Morrell St., Elizabeth 4, N. J.

New assembly of the company's design of marking head, feed device for color foil and a multiple-station indexing dial will stamp color markings into plastic, wood and film parts. The elements apply to the Model 2A Acromark press for operation at 50 strokes per minute.

Heat is employed through electric elements in the marking head. Thermostat control holds correct temperature. The press is provided with the required controls and with motor drive in self-contained assembly ready for power connection.

▼ REPRINT—Identify by IEN-2084 ▼

STEEL . . Bessemer screw stock features free cutting at high speeds

Source: CARNEGIE-ILLINOIS STEEL CORP.
1950 Carnegie Bldg., Pittsburgh 30, Pa.

Ask for the comparison report

U.S.S.MX designates the company's new screw stock which is available in rounds in ⅛ to 1½ in. diameter and in other bar products in 28 (2, 3) weight per foot. It is suited for general use in parts manufacture. It requires the same tools and formulas as the B 1112 steel which it supplements. Improvement in cutting speed will be one leading characteristic. The Makers of the most familiar carbon content under the 12 of standard cold finishing steel, believe it is time for the leading manufacturer for this type of steel. Magnaflux is a step in the method usage.

▼ REPRINT—Identify by IEN-2085 ▼

SEALING . . Pipe joint compound for steam, air, water, gas, gasoline

Source: GARLOCK PACKING CO.
50 Garlock St., Palmyra, N. Y.

A tight joint that requires no setting-up period, and one that will not harden in service to prevent disassembly is provided by brush application of the company's new Type-A compound in pipe threads. The material will remain in good condition in stock for long periods of time. It is packaged in 1, 2, 4 oz. cans and in 40 and 80 lb. pails.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ REPRINT—Identify by IEN-2086 ▼

Announcing

ZIP-GRIP*

Self-Locking

SET SCREWS

and ADJUSTING SCREWS

LICK VIBRATION—LOCK INSTANTLY, IN ANY GIVEN PLACE

1. INTERFERENCE FIT
2. TENSION
3. SPLIT SET SCREW LOCKING ACTION

IMPORTANT: Write for new ZIP-GRIP Data Sheet giving detailed specifications and applications. Also ask for the name of your local Zip-Grip distributor. Zip-Grip is available in standard Set Screws, Set Screws with Cup Point, and Adjusting Screws in Carbon Steel, Stainless Steel, Brass, Nylon, Nylon with Steel Inserts, Nylon with Brass Inserts, Nylon with Stainless Steel Inserts, Nylon with Nylon Inserts, Nylon with Nylon Inserts and Steel Inserts.

MORE PROOF That We Specialize In Solving PUZZLING SET SCREW PROBLEMS

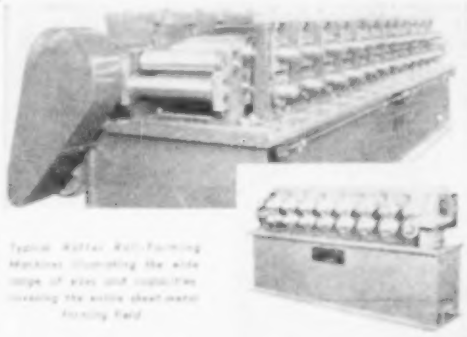
Set Screw & Mfg. Co. SETCO
5 Main St., Bartlett, Ill.

*Pat. Pend.

▼ REPRINT—Identify by IEN-2087 ▼

RAFTER COLD METAL ROLL-FORMING MACHINES

Correct Design for Maximum Efficiency



Typical Rafter Roll-Forming Machines illustrating the wide range of size and capacities covering the entire sheet metal forming field

Patented balanced gear drive mounted on roller bearings distributes power efficiently to each pair of rolls. Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive becomes less power than any other type. Exclusive design permits greatest vertical adjustment of the upper roll spindles without the aid of square gearing or small complicated gears. Design permits quick, easy and most accurate change of rolls possible. Shafts always remain parallel. Adjusting screws connect front and rear bearings. Low power consumption, lasting accuracy, longer roll life, and higher output are made possible by these and many other features.

RAFTER MACHINE COMPANY, INC.
SINCE '31
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

▼ REPRINT—Identify by IEN-2088 ▼

The KENT Combination

Dry Suction Cleaner and Electric Mopper

★ FOR DRY PICK-UP
★ FOR WET PICK-UP

WITH THE KENT FLOOR MACHINE, the KENT Combination makes the perfect "Fast Cleaning Team."

Write for Literature Kit

CLEAN WITH **KENT** EQUIPMENT

THE KENT COMPANY • 437 CANAL ST. • ROME, N. Y.

▼ REPRINT—Identify by IEN-2089 ▼

MILL IT...ON YOUR LATHE!

PALMGREN

MILLING ATTACHMENT

3 SIZES

No. 250 Illustrated

2½" JAW Only $24.95

CONVERT LATHE IN 10 SECONDS

New Top Feed Milling, Drill, Groove, Square Blank, Saw at Angles, Bevel, Gear, Slot, Key and Etc. SAVE TIME and MONEY. With each unit you get complete instructions when a PALMGREN MILLING ATTACHMENT solves your problem.

Attachment base or bed accurately aligned for right angle or parallel cutting, with lathe. Top mounted, adjustable, rigid, with other lathes. Cutter spindle, ball bearing, with quick change chuck, equipped with Morse Taper No. 2 Arbor. Cutter Size 1" Diameter x 1" Long. ORDER SIZE

IMMEDIATE DELIVERY

Model	Price	Cutter Diameter	Cutter Length	Arbor Diameter	Arbor Length	Price F.O.B. Chicago
250	$24.95	1"	1"	5/8"	1" Dia.	$24.95
250-1	$27.95	1 1/4"	1 1/4"	11/16"	1 1/4" Dia.	$27.95
250-2	$29.95	1 1/2"	1 1/2"	3/4"	1 1/2" Dia.	$29.95

Orders From Your Dealer or Jobber. Write for Circular No. 254

CHICAGO TOOL and ENGINEERING CO.

4642 South Chicago Ave.
Chicago 17, Ill.

JUST A FEW OPERATIONS YOU CAN DO ON YOUR LATHE!

▼ REPRINTS—Identify by IEN-2090 if you write the maker ▼

NICKEL SILVER

SHEETS
WIRE
TUBES
RODS

in compositions ranging from 5% to 30% nickel

49260

The AMERICAN BRASS COMPANY
Waterbury 20, Conn.

ANACONDA

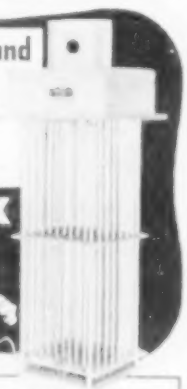
▼ REPRINTS—Identify by IEN-2091 if you write the maker ▼

For AIR DUCTS and Recirculating OVENS

Needing Temperatures From 400° F. TO 1,000° F.

CHROMALOX

TYPE TDG Heavy-Duty Electric HEATERS



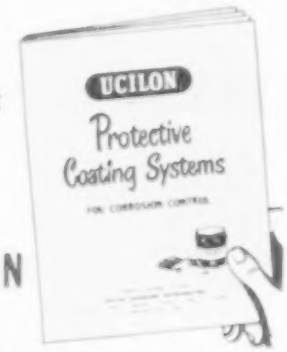
IF YOU USE HEAT
Get this Useful Booklet

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

▼ REPRINTS—Identify by IEN-2092 if you write the maker ▼

How this booklet can help you

BEAT CORROSION



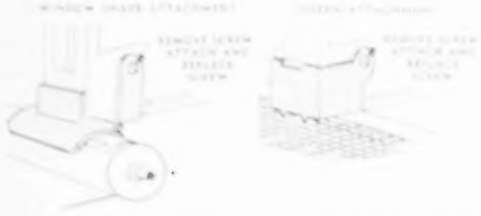
UCILON Protective Coatings

UCILON products of UNITED CHROMIUM INCORPORATED
51 East 42nd Street, New York 17, N.Y.

▼ REPRINTS—Identify by IEN-2093 if you write the maker ▼

STAPLING . . Positioning attachments apply stapler on shade roller, screen

Source: ARROW FASTENER CO.
28-36 Maujer St., Brooklyn 6, N. Y.



New attachments position the stapler so it can be easily, quickly and accurately used to attach screen and shade to roller. Both are secured to a screen on the stapler head as shown in the illustration. The screen attaches about twenty pieces that grip the screen and secure it hold it in place while the stapler is driven. The roller-shade attachment the driving pin fits on the roller.

▼ REPRINTS—Identify by IEN-2094 if you write the maker ▼

FLOORS . . Rubber mat for application at machines, benches

Source: FATTERSON-BALLAGH DIV.
P. O. Box 2493, Terminal Annex, Los Angeles 54, Calif.

Standard size is 32 by 32 in. for this low-cost resilient runner and for workers who must stand at machines and benches. It is covered on the underside to prevent slipping on a wet floor. The upper surface is grooved for worker comfort. Cut price a ft. The square nubbing on the overall size can be cut to fit elsewhere and small cuts is required.

▼ REPRINTS—Identify by IEN-2095 if you write the maker ▼

SEALING . . Accordion sleeve to protect extending pistons, screws

Source: A. & A. MFG. CO.
2015-19 W. Clybourn, Milwaukee 3, Wis.

New sleeve is made of 2 components: 1 Spring rubber and canvas is specified in flexible applications and is recommended and protects screws and other equipment and connecting equipment against contact with lubricant. 2nd. Tear appearance reflecting the cause of some that are to protect surface from damage. The sleeve is 12 in. square, 5 ft. 3 in. long by 24 in. outside. Lengths range from 6 in. to 30 feet.

All Makes of Taps And All Other Equipment Are Listed in THOMAS REGISTER Buyers' Ratings See Page 8

▼ REPRINTS—Identify by IEN-2096 if you write the maker ▼

LIGHT-WEIGHT CHAMPION for PROTECTION

Weight only 8 Ounces

Write for Bulletin F-10

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

▼ REPRINTS—Identify by IEN-2097 if you write the maker ▼

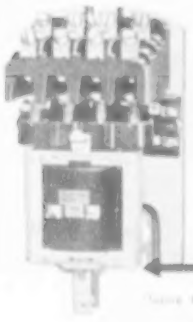
Lower Wrapping Costs with this versatile machine

One economic Model EA has installation costs a fraction of a cent, indicate that it is one the most widely used of all wrapping machines. With a speed of up to 100 packages per minute, it forms neat attractive wraps in a wide variety of styles, adaptable to virtually any type of grease or printed wrapping material. Can be changed over to a different size package by conventional hand-wheel adjustments.

Write for EA folder

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS · DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MEXICO, D.F.

▼ REPRINTS—Identify by IEN-2098 if you write the maker ▼



New DC SOLENOID CONTACTOR saves installation time

Same Mounting as AC Contactor

Now it's no longer necessary to drill special holes and provide special insulation for a DC contactor.

Ward Leonard's new DC Solenoid Contactors fit standard AC contactor mountings. Metal base plates . . . *not insulated* . . . components interchangeable with AC contactors.

Write for Bulletin 1990. WARD LEONARD ELECTRIC CO., 55 South St., Mount Vernon, N.Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

▼ REPRINTS—Identify by IEN-2099 if you write the maker ▼

For the latest in new equipment don't miss the—

INDUSTRIAL *Cost-Cutting* EXPOSITION

APRIL 10-14 (inclusive) PHILADELPHIA, PA.

Write for an advance registration form

AMERICAN SOCIETY OF TOOL ENGINEERS
10700 Puritan • Detroit 21, Mich.

BREVITY—Identify by IEN-2100 if you write the maker

Make STANLEY your hinge source!

You just specify the hinge you want—Stanley does the rest, from first sketch to finished product.

Stanley gives you the advantage of expert designers and production engineers, complete research and testing facilities, the particular plating and finish best suited to your needs.

As the world's largest producer of hinges, Stanley is geared for efficient production to meet your requirements. Write for hinge catalog—and, not only on special hinges but drawings and stampings as well, must?

PRESSED METAL DIVISION · THE STANLEY WORKS, New Britain, Conn.

New York • Chicago • Detroit

San Francisco • Los Angeles • Seattle

BREVITY—Identify by IEN-2101 if you write the maker

Seal Pipe Joints and Gaskets Against Leakage PERMANENTLY With KEY-TITE

Pipe joints sealed with Key-Tite positively will not leak. It is a perfect seal on all lines carrying water, gas, low-pressure steam, compressed air, etc. It contains no lead or lead substitutes and does not affect the taste or color of potable liquids. Key-Tite positively will not freeze in the pipes . . . they may be easily opened.

Try Key-Tite in your own plant at no cost. See the amazing results for yourself.

SEND FOR LIBERAL FREE SAMPLE

KEY COMPANY
2451 McCausland Ave., E. St. Louis, Ill.

KEY Company

BREVITY—Identify by IEN-2102 if you write the maker

No Floor Damage!

WHEN YOU MOUNT YOUR MACHINES ON

UNISORB

UNISORB Mounting Supports, no bolts, no lag screws . . . no old-fashioned, destructive floor drilling. A special cement two supplied to bond the UNISORB pads to machine feet and floor with a holding strength of 1500 p.s.i. minimum. When cured, UNISORB absorbs from gears, nearby or adjacent machines or vibration and noise . . . saves floors, buildings, machinery . . . often permits higher working speed. Write for free copy of "Why to Place Or Anchor Your Machinery with UNISORB."

The FELTERS Company
210 SOUTH STREET
BOSTON 11, MASS.

BREVITY—Identify by IEN-2103 if you write the maker

SEALING . . Cushioned scraper rings to keep dirt out from shaft packings

Source: HYDRAULIC ACCESSORIES CO.
741-5 Beaubien St., Detroit 26, Mich.

Two bronze rings, conical in section, are mated together and applied over a reciprocating shaft at its point of entry into a sealed or sealing box. The rings are held in place and are cushioned by a resilient rubber ring. Thrusting a recessed or a snap ring or gland plate against on the machine housing. The bronze rings bear lightly around the shaft to wipe off any dirt that may try to adhere as the dirt cannot be carried into the packing to score the shaft.

Eight sizes cover shaft diameters 3 from ½ to 3 inches. Additional width on the rubber is ⅛ to ⅜ inch. Depth C is also ⅛ to ⅜ inch. Overall length D is ⅜ to ⅝ inch.

BREVITY—Identify by IEN-2104 if you write the maker

DRIVE . . Variable speed assembly of motor and V-belt transmission

Source: STERLING ELECTRIC MOTORS INC.
5399-03 Telegraph Road, Los Angeles 22, Calif.

New assembly of the company's Kleed Tite ventilated motor and its variable-speed V-belt transmission has been added to its line of drives to provide a unit that will be safe to operate in atmospheres containing non-explosive dusts and vapors or dirt. The ball-bearing motor is flange mounted on the housing above the hand adjustment for speed variation at the output shaft.

The drive is available for operation on 2 or 3 phase, 60 cycle 220 to 550 volt ac, and in the across-the-line starting ratings up to 5 hp. Speed variation is 2, 3 or 4 to 1. Maximum output speed can be between 20 and 2,000 rpm.

BREVITY—Identify by IEN-2105 if you write the maker

PRINTING . . Microfilm service reproduces IEN pages on 35-mm. film

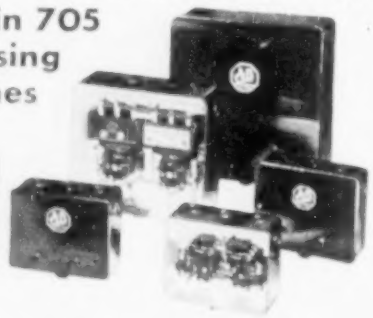
University Microfilms
313 N. First St., Ann Arbor, Mich.

A set of IEN pages for one year is now available in microfilm form through the company's service. The film serves as a permanent record, occupies a fraction of space. The pages appear as miniature positive prints on 35-mm. film. They are supplied in a roll on a metal reel, suitably labeled. The service operates on a yearly basis, is mined especially for library reference use. List price is approximately one-fourth cent per page for a one-year set of pages.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER · Descriptions · Ratings · See Page M

BREVITY—Identify by IEN-2106 if you write the maker

Bulletin 705 Reversing Switches



- Contactors mechanically interlocked
- Silver-alloy contacts need no cleaning

This complete line of switches provides reliable manual-line starting and reversing of polyphase squirrel-cage and slipring motors, as well as various types of single-phase motors used on machine tools and other industrial equipment. May also be used to make plugging operations. Write for descriptive bulletin. Allen-Bradley Co., 1012 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

BREVITY—Identify by IEN-2107 if you write the maker

1,500,000 CONNECTING RODS

without a SINGLE FAILURE!

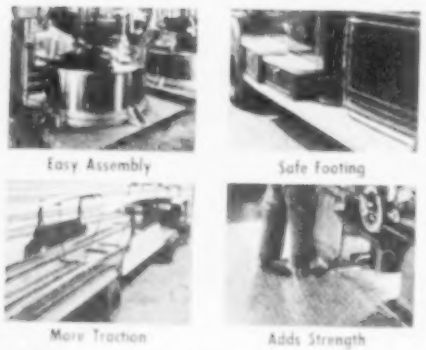
600 SERIES BEARING METAL

MUELLER BRASS CO.

BREVITY—Identify by IEN-2108 if you write the maker

For greater safety under foot, in your plant and on your products

Inland 4-Way Safety Plate



INLAND
INLAND STEEL COMPANY, 38 So. Dearborn St., Chicago 3, Ill.

STOCKED BY LEADING STEEL WAREHOUSES

New Bulletin with New Ideas—Just Out! Bulletin 41. Complete engineering and application data. Send for it!

IEN-2110

REALOCK FENCE

Protects

FACTORIES
AIRPORTS
INSTITUTIONS
POWER PLANTS
RESIDENCES

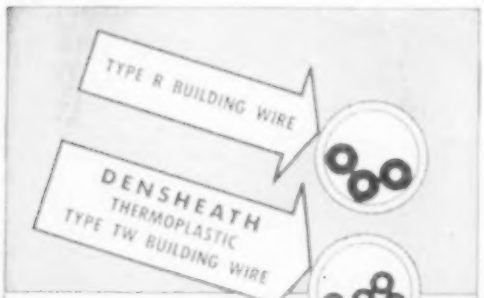
Increase property safety . . . decrease cost of upkeep . . . with a well-erected, tamper-proof Realock® Chain Link Fence. Initial cost is moderate and maintenance is negligible.

Write for free estimate on fabric and fittings or complete installation. Consult classified phone directory for our nearest distributor or write our nearest division listed below.

Realock Fence

WICKWIRE SPENCER STEEL DIVISION
261 DELAWARE AVENUE · BUFFALO 3, NEW YORK
THE COLORADO FUEL AND IRON CORP.
CONTINENTAL OIL BUILDING · DENVER 2, COLORADO
THE CALIFORNIA WIRE CLOTH CORP.
1400—70TH AVENUE · OAKLAND 5, CALIFORNIA
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

IEN-2111



INCREASED
CAPACITY WITH **Densheath**

For rewiring in existing raceways the National Electrical Code permits Type TW (Densheath) wires to be pulled with . . . conduit where only Type R wires are permitted.

Densheath poultry wire will not support combustion . . . is non-wicking . . . impervious to most oils, greases . . . light weight . . . has superior pull-in . . . is highly abrasion resistant . . . recognized by Code for temperatures and ambient temperatures to 140° F. and for wet and damp locations.

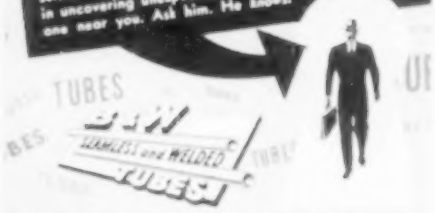
Write for Anaconda Building Wire Catalog 1-C

ANACONDA WIRE & CABLE COMPANY
25 BROADWAY, NEW YORK 4, N. Y.
ANACONDA

IEN-2112

TUBES . . . TUBES
. . . NOTHING BUT TUBES

B&W Tube Co. representatives are pass-keys to all tubing problems — pressure or mechanical . . . carbon, alloy, or stainless . . . special shapes . . . tailor-made physical and chemical properties. They sell tubes, tubes, nothing but tubes. Their factory training in "tube-technics" embraces everything from material selection to method of shipment. They are experienced in uncovering unexpected tubing economies. There is one near you. Ask him. He knows!



THE BABCOCK & WILCOX TUBE COMPANY
General Offices: Beaver Falls, Pa.
Plants: Alliance, Ohio, and Beaver Falls, Pa.
Sales Offices: Chicago 3, Ill. · Cleveland 14, Ohio · Denver 2, Colorado · Detroit 26, Mich. · Houston 2, Texas · Los Angeles 15, Calif. · New York 16, N. Y. · Philadelphia 2, Pa. · St. Louis 1, Mo. · San Francisco 4, Calif. · Syracuse 2, N. Y. · Tulsa 3, Okla.

IEN-2113

GAGE . . Flow indicator for pipe line carrying opaque fluid

Source: FISCHER & PORTER CO.
931 County Line Road, Hatboro, Pa.

Actual flow and its approximate rate are indicated by the position of a short, free-low self-aligned float on the end rising in a tube. A magnet, sealed inside the float, slides with the float on a rod. The new design of the unit, previously [illegible] IEN-2107-40, is available with threaded ends for mating assembly to a ½ to 2-in. line and with flanged ends for 1 to 4-in. pipe.

Overall length ranges from [illegible] to 11 inches. Construction is through rubber [illegible] to the larger size, [illegible] lb. for the smallest. Flow increases to [illegible] and [illegible] lb. for the other positions tried. Flow rate is 35 to 53 gpm. of water in the smallest, 25 to 230 gpm. in the largest. Temperature rating is to 250° deg. F.

Operation is based upon permanent upward of a tapered metering tube, so as [illegible] flow rate increases. The float carries a permanent magnet and is guided in a central rod mounted in a stuffing box [illegible] end. The magnet attracts the [illegible] and rotates it to the side of the outside of the housing where it can be seen [illegible] in protecting glass. Float stops [illegible] the tube to prevent its being blown through the line to damage the [illegible] pipe valve.

IEN-2114

DRIVE . . Variable pitch sheaves for V-belt drive, ratings to 7½ hp.

Source: SPEED SELECTOR INC.
118-A Noble Court, Cleveland 13, Ohio

Five new sizes with outside diameters at 2¼, 3, 3¾, 4¼, 5¼ in. have been added to the 7 in. design previously described. IEN-2107-40. Each size includes two designs, one with spring backing that tends to hold the flexible flanges at minimum pitch and one with a ball-thrust compensated arrangement, with which the pitch can be altered and held while the drive is in operation. Individual sheaves are variable from 2 to 2.62 to 1 in combinations of two, giving a pitch control expansion from 4 to 7 to 1.

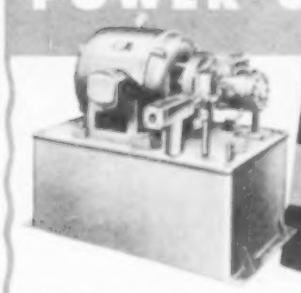
The largest 5¼ in. assembly is a cluster-groove sheave. The other assemblies provide bore to ⅝, ¾, ⅞ in. on the smallest, 1 to 1⅛ in. on the largest. Sizes from 2¼ to 7 in. incorporate one assembly for A belts. The 7 in. unit and the 5¼ in. size will take B belts.

Bulletin. Catalog "Speed Selector." Illustrates the sheave in three positions, provides dimensions, drawings, descriptions, [illegible] speeds, ratios and power ratings.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 36

IEN-2115

VICKERS Hydraulic
POWER UNITS



Simplify Hydraulic System Design
Save Space
Reduce Costs

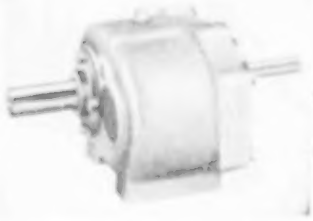
Available in several sizes with many different vickers Pump combinations and electric motor arrangements, this self-contained hydraulic power unit meets a wide variety of industrial machinery requirements.

All necessary accessories are included, air filters, strainers, oil level gauge and pipe fittings, etc., complete and ready for connection to a machine hydraulic system.

Ask for Bulletin 46-43a

VICKERS Incorporated
Division of The Sperry Corporation
1298 OAKMAN BLVD. • DETROIT 32, MICH.

IEN-2116



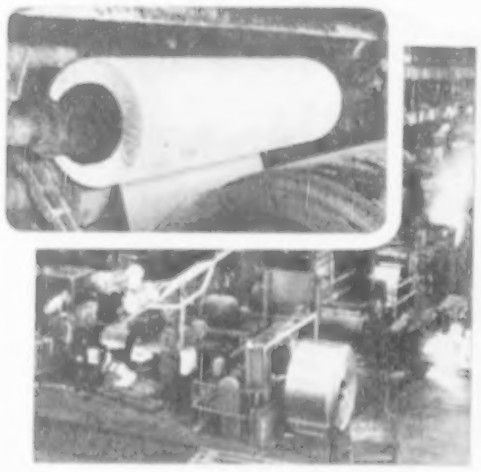
2-speed automatic TRANSMISSION

. . used to supplement constant-speed and multi-speed motors . .

. . with the advantages of providing broader range of speeds, and special ratios not obtainable electrically . . In the five horsepower (illustrated) model, with a 1750 rpm input speed, the low limit of reduction is 6.31 to 1 but any pre-selected ratio, from direct motor speed to this low limit, is obtainable . . WESTERN Two-Speed Automatic Transmissions are built to handle 5, 10, 15, 20, 25 and up to 50 horsepower motors . . *Send for complete information.*

up to 30 h. p. WESTERN TRANSMISSIONS
For [illegible] Lathes, Milling Machines, Shapers, Turret Lathes, Radial Drills, Boilers, Air Coolers, Blow Coolers, Air Blowers, Spring Rolls, etc.
WESTERN GEARCRAFTERS, INC. · [illegible] · DETROIT, MICHIGAN

IEN-2117



Strip comes clean at *1500 feet per minute* with OSBORN power driven brushes

On the continuous scrubbing operation above, 6 Osborn Belt Master® Brushes are mechanically cleaning strip steel at speeds of over 1500 feet per minute. This coil mill operation is removing all traces of rolling oil from the strip prior to electrodeposition plating.

Belt Master Brushes can be supplied with the correct material to do each cleaning job well. In the job illustrated, the operating conditions include high pressure hot sprays. The brushes give unusual, dependable performance. They are helping assure continuous, uninterrupted production schedules by maintaining consistent high quality of finished products.

If you have a continuous strip cleaning, sheet scrubbing, scale removing, broadening or conveyor cleaning problem, it is likely that it can now be done easier, better and at lower cost with new improved Osborn brushing techniques. Why not consult your Osborn representative. Call or write . .

THE OSBORN MANUFACTURING COMPANY
Dept. 36, 5401 Hamilton Avenue • Cleveland 14, Ohio
Chicago

Osborn Brushes

WORLD'S LARGEST MANUFACTURER OF BRUSHES FOR INDUSTRY
POWER DRIVEN BRUSHES • PAINT BRUSHES • MAINTENANCE BRUSHES

BRIEFITS—Identify by IEN-2119 if you write the maker

INSURANCE AGAINST DAMAGING WATER DRAINAGE

Taber Pump Co.
ESTABLISHED 1887
266 ELM STREET, BUFFALO 3, N. Y.

BRIEFITS—Identify by IEN-2120 if you write the maker

"Ring-Seat" Center Drills Cut Costs!

Here's Why!

Due to its unique torque curve contour, there is no angular fatigue point between the tip section and the center forming section. Also the tip diameter is slightly larger than the body of the tip section, providing clearance behind the tip. As a result, tip breakage is reduced to a point where users report two-fold to four-fold increase in useful life over old-style tools. Should tip end be accidentally broken, the free side walls of the tip hole permit easy removal of the broken portion, and number of scrapped pieces is reduced.

Designed to Eliminate Chip-Jamming

The spiral grooves of Ring-Seat center drills is designed to facilitate the outward flow of chips and to eliminate the chip-jamming which is a common cause of tool breakage.

Resharpening of Ring-Seat drills is done in the same manner as with old-style tools.

LINK INDUSTRIES
13840 Elmira Detroit 27, Mich.
Write for Circular

BRIEFITS—Identify by IEN-2121 if you write the maker

STOP DUSTS

with DUSTKOP

Immediate Shipment. Only Complete Dust Collection "System" (Patented)

$127.50

FOR small wheel grinding, buffing, polishing, jewelry work, instrument and electrical job, laboratory and small shop use.

Heavy sheet steel pedestal supports portable wheel unit direct driven by 3600 rpm 110 V. 1 ph. 60 cy. GE or equal. Continuous duty motor, one stage dust separator, one stage glass Cyclone filter. Hood, E, 8" and connection pipe complete of adjustable curved for alignment $127.50. Weight 75 lbs. FOB Mich.

Over 20 stock models 300 cfm to 3000 cfm for immediate installation.

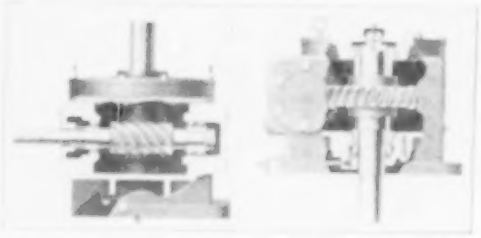
Ask for information on any dust control problem. Catalog 605 shows many installations. No obligation.

AGET-DETROIT CO.
203 Main Street • Phone 2-8805 • Ann Arbor, Michigan

BRIEFITS—Identify by IEN-2122 if you write the maker

DRIVE . . Worm drive speed reducer in seven sizes, output is to 600 rpm.

Source: CLEVELAND WORM & GEAR CO.
3258 E. 80th St., Cleveland 4, Ohio



Type SE with the output shaft extending upward and Type SD with the shaft extending downward are two new units in the company's worm-drive assortment. Both are sealed gear-drives for direct connection to motors and engines and incorporate low-speed gear drives without outboard bearings.

The worm shaft is mounted in ball bearings and the gear shaft from hardened steel. Gear housings are designed to prevent accumulation of dirt or moisture and in the gearing can operate without lubrication. Grease connection is provided on the housing of the worm gear. Flanges are provided with the gear shafts for positive connection to the driven.

Input shaft [illegible] in Type SE the output shaft [illegible] Type SD. [illegible] with the input shaft. [illegible] shaft in Type SE is [illegible] to 20 [illegible] 100 and [illegible] 200 [illegible]. The housing [illegible] specifications.

BRIEFITS—Identify by IEN-2123 if you write the maker

FASTENING . . Steel anchor stud driven by cartridge in portable tool

Source: POWDER POWER TOOL CORP.
0717-21 S. W. Woods St., Portland 1, Ore.

New design of the tools by adaptation of a previous body design, and now two design are announced by the company for its portable Drivetl equipment previously described (IEN-2008-4). Purpose remains the same, to drive a special pointed steel stud or pin through wire, sheet and plates into solid concrete with the force exerted by an exploding cartridge. This cartridge sets up an initial pressure to 25 tons, sufficient to drive a [illegible] stud or pin 1 in. into average concrete or through a [illegible] to soft steel plate.

The fastenings are available in a range of designs with [illegible] in. drive end and threaded studs or heads to [illegible] inch. Overall length ranges from 1 to 3 inches. The improved design of tool employs interchangeable pins known as Power Pins to regulate the energy applied in driving various distances into given materials. Firing requires pressing forward to cock and a twist on the barrel to discharge. The barrel extends to get into narrow places. The tool weighs about [illegible] pounds. It is gripped by the handle.

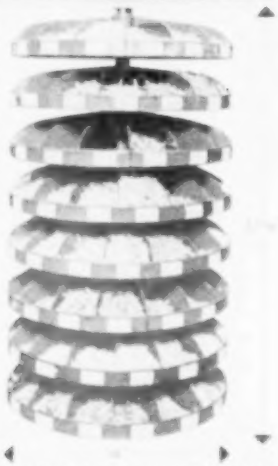
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 16

BRIEFITS—Identify by IEN-2124 if you write the maker

Economical Storage

ROTABINS

Model 3440 65½" high	
8 Sections	$84
Model 3435 65½" high	
7 Sections	$75
Model 3420 37" high	
4 Sections	$47



IMMEDIATE DELIVERY

All sections have 5 compartments, 18" wide, 30" long. Extra Bins may be used to add compartments to any unit. Bins may be used separately, with or without legs, as stacking units, or with or without hinged doors. Bins are of heavy gauge steel.

THE FRICK-GALLAGHER MANUFACTURING COMPANY
Sales: 409 Shubert Building, Philadelphia 2, Pa.

FGM **FRICK - GALLAGHER**
WELLSTON, OHIO
SHELVING • PARTS BINS • ROTABINS • COUNTERS • RACKS • TABLES

BRIEFITS—Identify by IEN-2125 if you write the maker

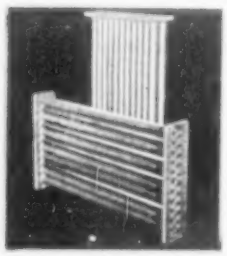
Send for catalog showing CESCO's complete line of safety equipment

CHICAGO EYE SHIELD COMPANY
1326 Warren Boulevard • Chicago 12, Illinois

BRIEFITS—Identify by IEN-2126 if you write the maker

ROME HELICAL-FIN TUBING

Over 90 Sizes in Production



Rome extended surface Helical Fin Tubing is a highly efficient—compact surface for heat exchanging work. It is supplied in either straight lengths, coils, or U bends with or without threaded end connections, or it may be used with standard flare connections. It is used for:

- Water Cooled Refrigeration Condensers
- Air Cooled Refrigeration Condensers
- Steam Condensers
- Oil Cooling Heat Recovery Condensers
- Air Compressor Intercoolers and Aftercoolers
- Oil Coolers for Diesel Engines
- Fan Type Air Heating Coils
- Fan Type Air Cooling Coils
- Fan Type (suspended) Unit Heaters
- Refrigeration Evaporators and Display Case Coils
- Turbine Air Surface Coolers
- Room Heating Convectors (Convected Radiation)
- Diesel and Truck Engine Cooling Radiators
- Railway Diesel Engine Cooling Systems

Rome Helical Fin Tubing is used and specified by nearly all large Nationally known manufacturers of heat exchanging equipment

ROME-TURNEY RADIATOR COMPANY
Mfrs. of Refrigeration Condensers • Concealed Copper Radiation Heat Air Heating and Cooling Units and Other Transfer Equipment
200 EAST FRONT STREET ROME, N. Y.

BRIEFITS—Identify by IEN-2127 if you write the maker

MORE SPEED MORE SUPPORT

FOR BETTER, SAFER, FASTER BAND-SAW OPERATION

INSTALL

PADDOCK GUIDES!

Stop costlier blade breakage! Get more matched and accurate production! PADDOCK BALL-BEARING BAND SAW GUIDES keep perfect workers! Interchangeable ball-bearing wheels, running with the blade, give strong, friction-free support where it is needed! Built-in free-spaced wheels keep the working surface of the blade in a fixed Matched and Level position with [illegible] new [illegible] [illegible] for details and [illegible] TO THE DAYS FREE TRIAL.

PADDOCK TOOL CO.
Guide Makers Since 1920
1418 Walnut Street Kansas City 6, Mo.

Paddock
BALL-BEARING
BAND SAW GUIDES

BREVITY—Identify by IEN-2128 if you write the maker

In
AIR CYLINDERS

It's **MUSCLE** you need!

JLE AIR CYLINDERS

Are all Muscle: No Useless Frills! JLE Air Cylinders invite cost comparison ... tell us the size cylinder you're interested in or are using and we'll give you JLE's cost figure for comparison.

JLE Air Cylinders are made to any stroke in standard bore sizes ... Single or double acting. Choice of four standard mountings ...

Distributor Territories Open ... Best Ones Going Fast. Write Us Your Qualifications NOW.

JAMES L. ENTWISTLE CO.

43N CHURCH STREET, PAWTUCKET, R. I.

BREVITY—Identify by IEN-2129 if you write the maker

Another product designed with Du Pont NEOPRENE

Neoprene used for vital parts in new diaphragm valve

In this new diaphragm valve design, which eliminates the stuffing box, neoprene does the vital job of sealing off the operating parts from line fluids. A neoprene insert in the disc also assures tight and durable seating.

Neoprene is used for both of these parts because of its excellent properties. It resists most chemicals and corrosive liquids . . . withstands extreme temperatures and aging. And neoprene stands up under constant flexing and contact with abrasive-laden fluids.

So when you need a resilient part to stand severe service, specify neoprene. It will assure you of a more efficient, longer-lasting product. While Du Pont does not make any finished products of neoprene, we'll gladly help you find a supplier. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division, Wilmington 98, Delaware.

FREE! THE NEOPRENE NOTEBOOK

NEOPRENE

The rubber made by Du Pont since 1932

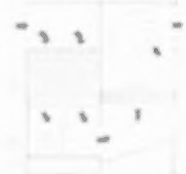
DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

BREVITY—Identify by IEN-2131 if you write the maker

REFRIGERATING . . Cooling equipment for air delivered to refrigerated room

Source: NIAGARA BLOWER CO.
3117 Chrysler Bldg., New York 17, N. Y.



Series 3300 ...

Air enters ...

BREVITY—Identify by IEN-2132 if you write the maker

WOOD WORKING . . Circular blades for portable electric saws, 6 to 10 in.

Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.

All sizes in stock

Crescent ...

BREVITY—Identify by IEN-2133 if you write the maker

TRUCK . . Four wheel platform unit rates to 2 ton, treated hardwood deck

Source: RAPIDS-STANDARD CO.
342 Rapistan Bldg., Grand Rapids 2, Mich.

Welded steel ...

Mounting ...

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 38

BREVITY—Identify by IEN-2134 if you write the maker

Stanzoils

Hot 'n Cold Neoprene Coated Gloves

Work Comfort in Temperature Extremes from -85° to +314° F.

... *The Pioneer Rubber Company, ... Tiffin Road, Willard, Ohio; Los Angeles, California.*

OVER 30 Years OF QUALITY GLOVE MAKING

STANZOIL PIONEER

BREVITY—Identify by IEN-2135 if you write the maker

Send FOR THIS NEW

CATALOG

Square D offers a wide range of pressure, float and ... switches for ... water systems ... Pump Control Catalog ...

Square D Company, 4041 N. Richards Street
Milwaukee 12, Wisconsin

SQUARE D COMPANY

BREVITY—Identify by IEN-2136 if you write the maker

ADAMS Aftercooler and Cyclone Separator

Dry, Moisture-Free, Oil-Free Air . . .

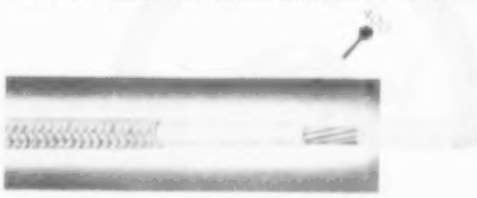
for your Compressed Air Tools

Write for Bulletin 704

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

BREVITY—Identify by IEN-2137 if you write the maker

OKOTHERM INSULATED CABLE ON JET ENGINE WITHSTANDS 400° F.



The remarkable heat-resisting quality of Okotherm insulated cables has been demonstrated by their operation on a jet engine that develops temperatures as high as 400° F. ... It can also be used for electric ovens, furnaces and motors, high-intensity floodlights, street lights and neon signs.

If you should have no immediate use for heat-resisting Okotherm cables, some other special-purpose Okonite cable may fit your needs. "Unusual" cable requirements have a way of turning out to be Okonite. Why not talk over your cable problem with an Okonite engineer? The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE insulated wires and cables

BREEZE—Identify by IEN-2138 if you write the maker

ELECTRICALLY WELDED

TWO U-shaped half links are electrically welded to form connecting links, by the most experienced chain craftsmen.

HEAT-TREATED

TM Alloy Chain and all supplements receive a controlled heat treatment. It never requires annealing. It is important to check grain growth, work hardness.

THOROUGHLY TESTED

TM Alloy Steel Chain is subjected to grueling tests before shipment. It has twice the working load limit of wrought iron or low carbon steel chain.

CAREFULLY INSPECTED

Each link of every TM Alloy Steel Chain is thoroughly inspected before shipment. We are protected than ordinary.

S. G. TAYLOR CHAIN CO.
44 Tyler Street, Hammond, Indiana

BREEZE—Identify by IEN-2139 if you write the maker

TRICO "Kliplok" TEST CLAMPS

THE MONEY-SAVING ANSWER:

TRICO "Kliplok" Clamps "Lock Into A Vise" and eliminate the annoyance and expense of costly shutdowns, night and holiday repairs, damaged equipment, fire and accident hazards. Easily installed. Pay for themselves quickly.

WRITE FOR FREE BUL. NO. 6

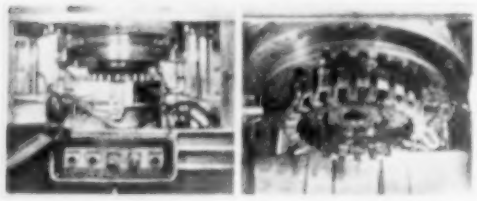
TRICO FUSE MFG. CO., Milwaukee, Wis.
In Canada: IRVING SMITH LIMITED, Montreal

BREEZE—Identify by IEN-2140 if you write the maker

BREEZE—Identify by IEN-2141 if you write the maker

GEAR CUTTING . . Shaping machine feeds radially to cut internal teeth

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.



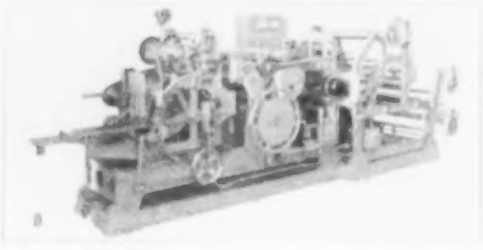
No. 18181 is a new machine in the Industry's Short Speed line to cut internal gears, splines, counter shapes that can be machined with radial feed cutter. The machine mounts a ring of equipment cutters in the reciprocating head, feeds them radially outward as the reciprocating action is maintained. There is provision for extension of the return movement of the head to eliminate tool drag. Feed increases near the end of the cycle to finish with two or three strokes at exact depth, no more feed. Work range is 5½ to 20 in. in circle diameter.

First setup of the new machine was for internal 12-in. pitch-diameter gears. Some 5,000 work pieces have been completed without requiring a tool reset. Machine cycle for this job is 24 sec. For an hourly production rate of 80 to 90 pieces. The first cutters can be removed by locking the individual units on a magnetic chuck on a surface grinder and by removing a few screws like from the top face.

BREEZE—Identify by IEN-2142 if you write the maker

PACKAGING . . Cellophane bag machine makes flat single wall and duplex bags

Source: FOTDEVIN MACHINE CO.
1219-23 38th St., Brooklyn 18, N. Y.



Model 111 is a new machine in the Fotdevin line that can be used as a single wall single bag or duplex bag machine. It is designed to run at 40 bags per minute. The machine bags flat or gusset bags at the same speed at the same time. The machine bags, fills and seals the bag. The duplex bag machine has a bag length of 3 to 12 in. and a bag width of 2 to 6 in. The machine takes the cellophane from a roll and forms the bag, fills and seals it. It will process the cellophane tube to make a single bag and then and then and gusset the bottom. The cutoff is quick, clean and accurate, requiring no trim.

The cutter knives operate at 4 . . . . . The machine takes up 3 ft. 6 in. of floor space. The machine can be used for a gusset tube bag. A complete unit costs . . . . . The Model 111 is a semi-automatic machine. It requires a . . . . . operation with approximately . . . . . .

All Makers of Equipment And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 30

BREEZE—Identify by IEN-2143 if you write the maker

PRODUCTION THREADER *for* Pipe and Bolts

OSTER

• Oster No. 702 "WILCO" threads the regular range of ⅛"-1½" pipe extra range ⅛" pipe and bolt range ¼" to 1½". Maximum length of thread cut without regripping the chuck . . . 14½". Speed ratio for cut and pull further reduces the chance of a larger speed on conventional machines.

Other features include 3 speed motor (900, 1800, 3600 RPM) and spindle speeds 40-80-160 RPM; worm gear drive with ball bearing mounted spindle; "MONARCH" screwdriver front chuck, non-locking rear collapsing chuck, quick-opening adjustable die heads with replaceable chasers, and individual air-cooled, large coolant pumps.

Carriage travel . . . 14½". Spindle nose—2½". Height to center of spindle—42". Floor space required—2 ft. 3 in. x 5 ft. 10 in. Height overall—3 ft. 11½". Net weight 1650 lbs.

Write for No. 702 "WILCO" Bulletin.

THE OSTER MANUFACTURING CO.
2055 EAST 61st STREET • CLEVELAND 3, OHIO, U.S.A.

BREEZE—Identify by IEN-2144 if you write the maker

Here are two veterans of the Nutting line — proven resourceful and tough for faster material handling. These easy rolling, well balanced trucks get the job done right — on time! Your men will like to work with them — and their cost per year is hardly visible.

Fig. 16—No. 24

Fig. 1136
New Tilting Bar Handle Truck

Write for Bulletin 49-G

Our 59th Year

NUTTING TRUCK AND CASTER COMPANY
2011 DIVISION STREET, FARIBAULT, MINNESOTA

BREEZE—Identify by IEN-2145 if you write the maker

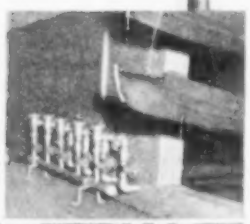
NATURE *Insists* ON INDIVIDUAL TRAPPING

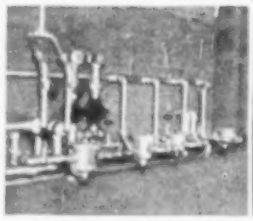
—and no waiting! But in your plant there may be slow-ups and other production headaches because a single large steam trap is supposed to drain a whole battery of machines or a number of individual coils or jackets.

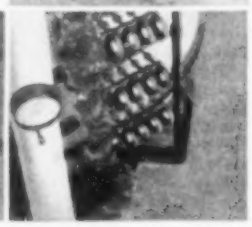
Use individual trapping—a separate trap on each unit and make sure that condensate is not held back to slow up your operation.

No. 9

THE SELECTION of the right steam trap is not difficult. Sarco Selection Chart No. 1600 shows first and second preference for standard applications, or the Sarco man will study and recommend for every process in your plant.







BUCKET

FLOAT THERMOSTATIC

232

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N.Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

IEN-2147

8-Page
Condensed Catalog

shows Veeder-Root Counters for mechanical, electrical and manual operation. Write for a free copy.

VEEDER-ROOT INC.
HARTFORD 2, CONNECTICUT

IEN-2150

TRUCK . . Power lift design
for 1 ton tiering duty in narrow aisles

Source: LYON-RAYMOND CORP.
1566 Madison St., Greene, N. Y.

IEN-2153

IEN-2148

THE ANTI-FRICTION BEARING
DISTRIBUTORS' ASSOCIATION
1900 Euclid Ave., Cleveland 15, Ohio

IEN-2151

HEATING . . Electric element,
rack type, 1.5 to 7.5 kw. per unit

Source: TRENT INC.
245-49 Lexington Ave., Philadelphia 21, Pa.

Type FFR — [illegible]

All Makers of Items and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

IEN-2152

IEN-2154

Versatile B&D Sanders give you choice of four models, handle four kinds of work!

WIRE BRUSHING
Black & Decker
Standard Sander
$67.00

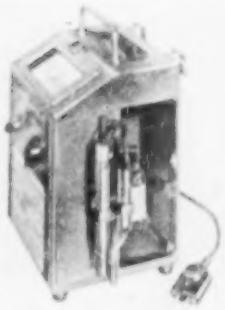
GRINDING
Black & Decker
Heavy Duty Sander
$76.00

WOOD PLANING
Black & Decker
Heavy Duty Sander
$92.00

Black & Decker
PORTABLE ELECTRIC TOOLS

IEN-2156

THE
CAMBRIDGE
INDUSTRIAL MODEL
DIRECT READING
pH METER



- Operated from any AC outlet.
- Completely portable. Electrodes are integral parts of the instrument.
- Accurate to .10 pH.
- Shielded glass electrodes permit use of electrodes at any distance from the instrument.
- May be used on a bench or wall mounted.
- Self contained in one metal case including electrodes and buffer solutions.
- Extremely stable.
- Automatic temperature compensation.

Send for bulletin 910 NA

Also available: Finger-Key Research Model accurate to .02 pH with fully sealed case, accurate to .01 pH with Single and Multipoint recorders.

CAMBRIDGE INSTRUMENT CO., INC.
3710 GRAND CENTRAL TERMINAL NEW YORK 17, N. Y.

Pioneer Manufacturers of
PRECISION INSTRUMENTS

IEN-2157

Handle Bulk Materials by Mechanical VIBRATION with the JEFFREY MV Conveyor

It's free (Patent Pending). Handles all kinds of bulk materials dry to wet hot to cold fine to coarse abrasive lumpy or rough. Operates without any belt or by electric impulse. Large power saving.

The Jeffrey MV conveyor characteristic to food products handling.

Ask for bulletin No. 326.

JEFFREY
THE JEFFREY MANUFACTURING CO.
914 N. Fourth Street, Columbus 16, Ohio

IEN-2158

For the latest in new equipment don't miss the—
INDUSTRIAL Cost-Cutting EXPOSITION
APRIL 10-14 (inclusive) PHILADELPHIA, PA.

Write for an advance registration form

AMERICAN SOCIETY OF TOOL ENGINEERS
10700 Puritan • Detroit 21, Mich.

IEN-2159

CLEANING . . Automatic machine to wash and dry cylindrical cans

Source: CHAIN BELT CO.
1675 W. Bruce St., Milwaukee 4, Wis.

Roto-Brush (at 1) is a new machine to remove contaminated cans. The cans (being filled and sealed) it washes and then rinses prior to delivery to a conveyor or to the filling line. The cleaning operation requires only light force. The filling operation, at 2, will not be on the cans to make hard where the cans enter through a cooker. 3, from the cans on conveyors at the permit a grooving or cleaning.

Three sizes of the machine cover a range of cans from No. 300 to No. 404 based on diameter and from No. 208 to No. 300 based on length. Operating speed is 300 per min. on the smallest, 200 per min. on the largest.

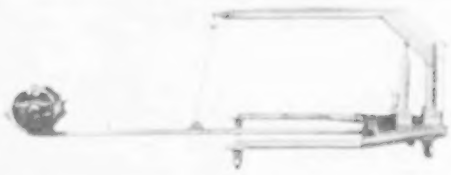
The filled and sealed cans enter a spacing conveyor on the right where a needle positions them to be engaged by the main conveyor. This main unit picks up each vertical can, rotates it into horizontal position on a stainless-steel rail between the "Cyclo"-cleaning brush and a rubber-covered backup roller. The brush causes the cans to rotate as they are moved forward to discharge at the left hand end. Here they are returned to upright position for delivery to a take-away conveyor.

Spray heads direct water at the can and brush when they are to be scrubbed prior to washing. A stopper bank (operation action shown in a catch pan at the bottom of the bottle). The heads are turned off for cleaning and drying until the cans are performing the drying operation.

IEN-2160

CRANE . . Hand hydraulic jib design rates 5,000 lb., for general shop use

Source: R. B. LATCH ENGINEERING CO.
Forest Ave. & MacDade Blvd., Milmont Park 6, Pa.



Extension arms (shown) have been added to the company's Model 10 hydraulic crane. Arms are used to lift a load and pick up a load-carrying attachment. Offered in two ft. The arm-lifting pivots at the crane base, and the load is lifted in an arc. This permits operation in a small working area.

The crane itself is the company's standard hydraulic crane, with a capacity of 5,000 lb. Lifting is by a hydraulic cylinder. It comes with "Vee" wheels, starting at 120. The base can be mounted on a wall, ceiling, or floor. Lifting height is 6 ft. Overall height of the crane is 7 ft. Overall length is 30 in. Base width is 27 in. Base weight is 270 pounds.

All Makers of Electric and Oil-Fired Products for Listed by CHECKED RATINGS Descriptions Ratings See Page 30

IEN-2161

The World's Most Efficient
CONCRETE DRILL

THE TILDEN ROTARY
KONKRETE KORE DRILL

- Drills up to 2 inch inches per minute
- Drills continuously holes and beams on schedule
- Drills up to 10 feet of concrete without withdrawing
- Gives straight, clean holes for anchors, conduit, etc.
- Uses ordinary electric drill

Check today for catalog with complete details on these revolutionary concrete drill bits.

TILDEN TOOL MANUFACTURING COMPANY
1995 NO. FAIR OAKS, PASADENA 3, CALIFORNIA

IEN-2162

ARMSTRONG
Drop Forged
LATHE DOGS

ARMSTRONG Lathe Dogs give extra service because they are drop forged from selected open hearth steel and are heat treated to extreme toughness and stiffness. Hubs are made large enough to permit re-tapping, screws are also of special analysis steel and are hardened at the point to prevent upsetting. ARMSTRONG Dogs come in 10 types with square head or safety headless screws, with straight or bent tails. They are carried in stock by your local ARMSTRONG Distributor.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
5243 West Armstrong Ave.
Chicago 30, Illinois
New York and San Francisco

IEN-2163

new removable stickers

faster to apply...easy to remove!

The remarkable new removable adhesive of Kum-Kleen gives positive stickiness to the paper. Yet it can be peeled off easily, without tear or smearing. Stick more and more to pop-open or temporary seal thereafter. Perfect. Because Kum-Kleen is permanent, it may be used on parts and equipment in the most exacting service and yet will not mar the surface when removed.

Kum-Kleen adhesive takes the same way. Many uses are now in use and many uses of Kum-Kleen are appearing outside the scope of labels.

Kum-Kleen

AVERY ADHESIVE LABEL CORP.

IEN-2164

Specify VIKING for Your Future PUMP PLANS

Fig. 55

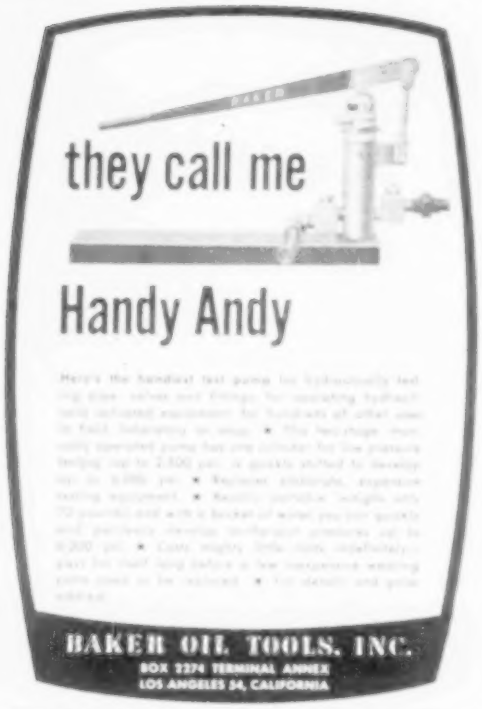
Check today on your pumping equipment needs. Viking offers the most complete line in the rotary pump field. The range of sizes and styles are the largest available.

Each is built to handle the specific job. Outstanding features include fast self-priming . . . smooth, even discharge . . . low power requirements . . . compact and rugged construction.

Send today for free Bulletin 50SF.

Viking PUMP COMPANY
Cedar Falls, Iowa

▼ DRAFTS—Identify by IEN-2165 if you write the maker ▼



▼ DRAFTS—Identify by IEN-2166 if you write the maker ▼

keep posted on—

relative humidity and temperature

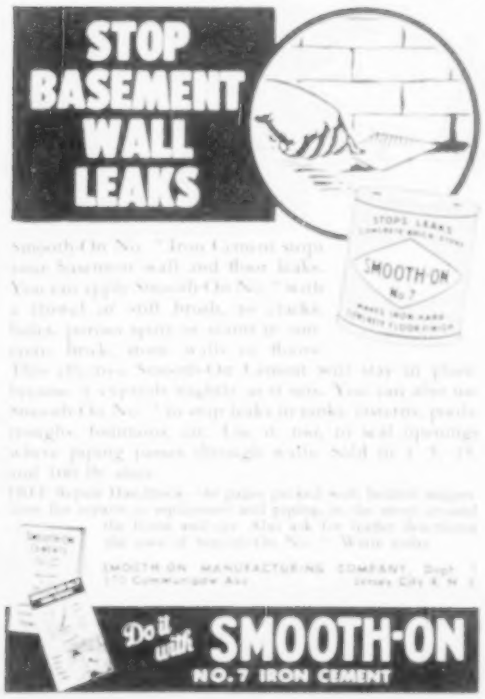
WITH THE

Hygrodial

It is a well known fact that temperature and relative humidity affect the product and capacity of both man and machines. Keeping an accurate check on your air conditioning equipment with a Bendix Time Hygrodial is as easy as looking at the clock. This hardworking, precision instrument is calibrated to "independent standards" by the manufacturers of the world's most weather instruments. Only $8.50 and $12, with a suitable metal for desk or wall mounting. Dial. Write for special discounts on quantity orders.

WRITE
FRIEZ INSTRUMENT DIVISION OF

▼ DRAFTS—Identify by IEN-2167 if you write the maker ▼



Smooth-On No. 7 Iron Cement stops your basement wall and floor leaks. You can apply Smooth-On No. 7 with a trowel or soft brush, to cracks, holes, porous spots or seams in concrete block, stone, brick or floors. This Portland Smooth-On Cement will stay in place because it expands slightly as it sets. You can also use Smooth-On No. 7 to stop leaks in tanks, concrete, pools, troughs, bathroom etc. Use it, too, to seal openings where piping passes through walls. Sold in 1, 5, 25 and 100 lb. sizes.

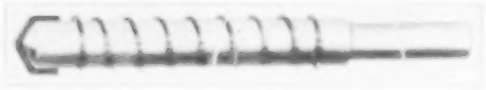
100% Repair Guarantee—Is paint peeled, brittle, stained, worn, fire damaged, or unpainted and paint is the answer, consult the Smooth-On Repair Guarantee Chart. Also ask for leaflet describing the uses of Smooth-On No. 7 Iron Cement.

SMOOTH-ON MANUFACTURING COMPANY, Dept. 1
570 Communipaw Ave. Jersey City 5, N. J.

▼ DRAFTS—Identify by IEN-2168 if you write the maker ▼

ROCK DRILLING . . Carbide tipped drill with spiral winding for use in masonry

Source: CARBOLOY CO.
11167 E. 8-Mile Road, Detroit 32, Mich.



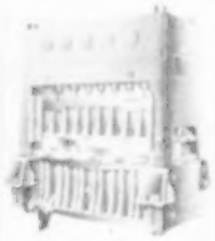
Sizes range from A to 5/8 in. in a new line of carbide tipped drills for use in brick, stone, tile, concrete. The new design is characterized by the spiral wound steel wire which is attached to the drill shank at the rear and just back of the tip. This wire keeps the shank and chuck the dust from the long operation, so bit can be used longer.

The result is a continued rather efficient drilling without changing to clean out the pockets during tool. Bright colors and kits are available. Two of the carbo bits are made in sizes 3/8 and 5/8 in. and increase in and 3/8 inch. A third bit holds three sizes, 1/4, 3/8 and 5/8 inch.

▼ DRAFTS—Identify by IEN-2169 if you write the maker ▼

PRESS . . Motor driven machine rates 3,850 ton, 350 by 84 in. bed area

Source: CLEARING MACHINE CO.
649 W. 65th St., Chicago 38, Ill.



By rotarying . . Power is given the operator has hand on operator's right, power can be engaged to prevent injury during the operation. The press is 350 ton, 84 in. bed area, 3 in. stroke, motor, a crank is a crankshaft. The bed will take 8 in. to 20 in. in height. To 84 in. is adjustable from the crank mechanism.

▼ DRAFTS—Identify by IEN-2170 if you write the maker ▼

VIBRATING . . Pneumatic unit and drum head to help empty a drum

Source: CLEVELAND VIBRATOR CO.
2746 Clinton Ave., Cleveland 13, Ohio

New assembly of one of the company's pneumatic vibrators and a Compco drum. Unit applied to round and steel drums with concave ends. The diaphragm head is secured in place of the original one on the drum to provide an adjustable discharge opening from the drum. The unit is designed to permit free flow through this opening. Flow rapidly and to stop it off as required.

The Makers of These And All Other Products Are Listed In THOMAS REGISTER — Buyers' Guide — See Page 30

▼ DRAFTS—Identify by IEN-2171 if you write the maker ▼

▼ DRAFTS—Identify by IEN-2172 if you write the maker ▼

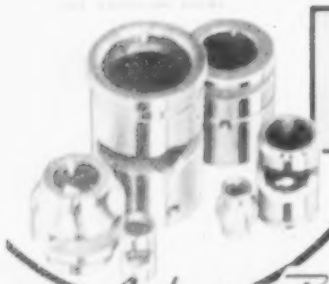
▼ DRAFTS—Identify by IEN-2173 if you write the maker ▼

▼ DRAFTS—Identify by IEN-2174 if you write the maker ▼

IEN - 2175

JOHNSON Electric Motor Bearings

Every bearing in machine [illegible] Johnson EM Bearings [illegible] the correct [illegible] bearings for all [illegible] from distributors and [illegible] stocks.



Ready to Install

WRITE TODAY FOR CATALOG

Johnson Bronze
SLEEVE BEARING HEADQUARTERS
476 SOUTH MILL STREET • NEW CASTLE, PA.

IEN - 2176

LESS CLEANING TIME

MORE PRODUCTION TIME

WITH A

Doyle VAC-IT

Eliminate time-consuming expensive and solid to production profits that have gone over by taking advantage of the powerful cleaning capacity of the Doyle Vac-It. Production machinery is thoroughly cleaned and freed of all chippings that did not quite in a fraction of the time ordinarily consuming methods take. Metal chips, shavings, grease and liquids are quickly removed from working surfaces leaving them clean and dry. So efficiently does the Doyle Vac-It perform that it is not necessary to stop production for a shut-down-and-hand-cleaning cleaning.

Write today for informative Doyle Bulletin [illegible] Discontinue your waste [illegible]

Doyle VACUUM CLEANER CO.

2235 Stevens St. S. W. • Grand Rapids 7, Michigan

IEN - 2177

Things to think about when selecting Unit Heaters

MODINE UNIT HEATERS

IEN - 2178

HANDLING . . Stationary stacker receives, aligns cut strips from shear

Source: FRIED STEEL EQUIPMENT MFG. CORP. 526-30 E. 139th St., New York 35, N. Y.

Strip Stacker. [illegible]

Channel runners. [illegible]

Note: [illegible]

IEN - 2179

CONTROL . . Motor driven viscometer actuates relays in a process operation

Source: BROOKFIELD ENGINEERING LABORATORIES, INC. 235 Porter St., Stoughton, Mass.

Fluid viscosity [illegible]

One dial [illegible]

Data Sheet 012, [illegible]

IEN - 2180

World's Quickest Way to Rerail Cars and Locomotives

Nolan Rerailers Get 'Em Back on the Tracks, Saving Time, Labor, Money

How Nolan Rerailers Work. [illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

F. O. B. Low [illegible]

Send Order Now! Immediate Delivery. Complete Satisfaction Guaranteed! Free Descriptive Lit. [illegible]

THE NOLAN COMPANY, 114 Pennsylvania Street
Bowerston, Ohio

IEN - 2181

CORBIN LOCK ENGINEERS DESIGN NEW LOCKING DEVICES

Send for the Corbin Industrial Catalog showing special locks for unusual applications.

THERE IS NO COST

Inquiries for special locks will receive engineering attention.

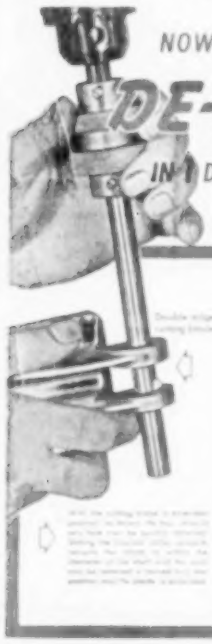
CORBIN CABINET LOCK DIVISION
The American Hardware Corporation
NEW BRITAIN, CONNECTICUT

IEN - 2182

NOW MULTI-WALLED PARTS

DE-BURRED

IN DOUBLE-QUICK OPERATION



NEW NOBUR BURR REMOVING TOOL QUICKLY AND EASILY REMOVES BURRS FROM HOLES ON MULTI WALLED PARTS!

[illegible]

NOBUR MANUFACTURING CO.
717 N. Victory Blvd., Burbank, California

NO BUR TOOLS

IEN - 2183

Zenith

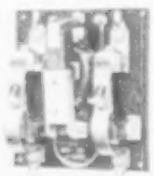
Performance . . .

Zenith means "highest point." This literally describes Zenith dependability — on the dot — as shown by records of long trouble-free, maintenance-free service in widest range of control uses.

Zenith automatic controls

Cover the Field: Magnetic Contactors, Remote Control, Reset, Interval and Process Timers, precision Impulse Timers, Program Clocks — plus special equipment for your special needs.

WRITE NOW FOR COMPLETE CATALOG!



ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

IEN - 2184

The valve with the QUICK CHANGE DISC

THE LUNKENHEIMER CO.

CINCINNATI 14, OHIO U.S.A.

IEN - 2185

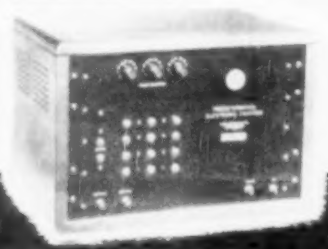
GET THE FACTS NOW!

Potter

HIGH SPEED ELECTRONIC

PREDETERMINED COUNTERS

For these applications:
AUTOMATIC MACHINE CONTROL
PACKAGING BY PREDETERMINED COUNT
LINEAL MEASUREMENTS
FREQUENCY MEASUREMENTS
TIME INTERVAL CONTROL



The ONLY counter with ALL these features!

- COUNTS AT RATES UP TO 60,000 PER MINUTE
- ABSOLUTE ACCURACY
- INSTANTANEOUS AUTOMATIC RESET
- NO MOVING PARTS, FRICTION OR INERTIA
- SIMPLE DIAL SELECTION OF COUNT

The instruments are easily applied to any problem requiring the precise measurement or control of QUANTITY, LENGTH, TIME, FREQUENCY, REVOLUTION or CAM SEQUENCE. Absolute accuracy of count is guaranteed.

Potter

POTTER INSTRUMENT CO.

INCORPORATED

136-58 ROOSEVELT AVE., FLUSHING, NEW YORK

NAME TITLE

COMPANY

STREET

CITY ZONE STATE

COUNTING MACHINE CONTROL
PACKAGING TIMING
SORTING PROCESS CONTROL
BATCHING FREQUENCY MEASUREMENT

IEN - 2187

HAMMER . . Electric drill adapter for chipping, caulking, drilling

Source: HAMER-DRIL CO.
Box 158-A, Planetarium Station, New York 24, N. Y.

New radium drive ...

Overall dimensions ...

IEN - 2188

FASTENING . . Clinch nut mounts locking thread anchor in a sheet

Source: NYLOK CORP.
475 Fifth Ave., Room 212, New York 17, N. Y.

New line ...

The nut ...

IEN - 2189

MANAGEMENT . . Facts about the Bureau . . booklet tells about its policies and activities

Reasons why ...

IEN - 2190

Ready FOR You!

New Bulletin

Presents NOPAK "Series 1500" High Pressure Hydraulic Cylinders

GALLAND-HENNING MFG. CO., 2760 S. 31st Street, Milwaukee 15, Wis.

WRITE FOR NOPAK BULLETIN

NOPAK

VALVES AND CYLINDERS

DESIGNED for AIR and HYDRAULIC SERVICE

IEN - 2191

HANNIFIN AIR PRESSES

1. Minimum Investment!
2. Less Effort!
3. More Output!

59 Models—1/2 Ton to 18 Tons

HIGH SPEED, EFFICIENT ...

EVERY WORK CONVENIENCE ...

HANNIFIN

Air Operated Presses

IEN - 2192

NEW—LOW COST SOLDERING TOOL

IDEAL

"STANDARD" MODEL

Thermo-Grip

For FASTER, BETTER Soldering at Lower Cost!

IDEAL

IEN - 2193

Watertight Plugs

Watertight Plugs and Receptacles

WITH TRIPLOC CONTACT UNITS

THE PYLE-NATIONAL COMPANY

1334 North Kostner Avenue . Chicago 51, Illinois

BREEFITT—Identify by IEN-2194 if you write the maker

CUT WASHROOM UPKEEP

With these exclusive Sperzel features

- OPEN FRONT AND BACK DESIGN . . . cuts cleaning time to a minimum. No germ collecting crevices . . . always sanitary.
- SELF-RAISING . . . seat remains upright when not in use with bowl serving as urinal. Seat stays clean and dry.
- DURABLE . . . double strength plastic pads are shatter-proof, fire-proof. Assure long life . . . low maintenance.
- SOLID PLASTIC . . . strong and durable. Plastic covered hinge is moisture proof, dirt free.

WRITE NOW for catalog for full details on model LP-20 (illus.), model LP-40 with self sustaining hinge, and a complete line of conventional models.

DEPT. IE

THE SPERZEL COMPANY

All Sperzel Seats fit Standard Bowls

123 14th AVENUE S. - MINNEAPOLIS, MINN.

BREEFITT—Identify by IEN-2195 if you write the maker

It's Streamlined

FOR GREATER CLEARANCE . . . Conserves Storage Space

The new Finnell Mop Truck gives you all the fine features of the famous Finnell truck, plus several new ones. The new model has rounded corners and recessed wheels . . . especially desirable features when the truck has to be moved through narrow passages and for conserving storage space. A mop shield prevents mop, when being wrung, from dripping into the dirty water. Wringer rolls are of steel, and the truck has four double disc pressed-steel wheels, two of which swivel . . . rubber or metal tires . . . and two 25 gallon tanks. Comes in stainless steel and in galvanized iron. For consultation or literature, phone or write nearest Finnell Branch or Finnell System, Inc., 2603 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC. *Pioneers and Specialists in* FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES — BRANCHES IN ALL PRINCIPAL CITIES

BREEFITT—Identify by IEN-2196 if you write the maker

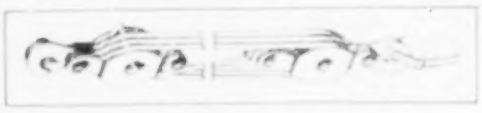
FREE

MAIL COUPON TODAY

BREEFITT—Identify by IEN-2197 if you write the maker

HOIST . . Miniature block and tackle rates 1,000 pounds, weighs 22 ounces

Source: FLANDERS MFG. CO.
313-17 South High, Pratt, Kans



Nylon cord, the same as that employed in parachute shrouds, is the load line in this new miniature block and tackle. It has 500 lb. of tensile strength, other than four ball-bearing sheaves in the upper block and three in the lower one. Block housings, sheaves and hooks are made of aluminum. The pins are non-corroding steel. Overall length of each block with its hook is 4 inches.

List price is $12.00 for the two blocks, 100 ft. of cord wound on a wire frame, two snap-equipped load straps and a cloth carrying bag. A 100-ft. spare packing brings the cost up to 100 pounds. Maximum safe operating limits is about 14 lb. with the 100 ft. of cord.

BREEFITT—Identify by IEN-2198 if you write the maker

WELDING . . DC. arc electrode for mild steel vertical and overhead

Source: GENERAL ELECTRIC CO
Dept. 6X-201, Schenectady 5, N. Y.

Impact resistance
50 to 70 ft. lb.

Type W-22, AWS Class E-6010, is a new electrode for reverse-polarity dc arc welding, particularly in vertical and overhead welding. The electrode deposits with a penetrating arc action that makes it suitable for galvanized galvanized sheet and for use in lap and butt welds.

The weld deposit is smooth, of uniform bead, of about 70,000 lb. per sq. in. in tensile strength in the as-welded condition. Elongation is 22 to 28 per cent in 2 inches. Yield point is about 60,000 lb. per square inch. Sheet range from 16 to by 12 by 16 to 8 in. by 18 inches. Current range is 40 to 90 amp. for the smallest, 300 to 500 amp. for the largest.

BREEFITT—Identify by IEN-2199 if you write the maker

CLEANING . . Portable vacuum machine for wet or dry operation, 5 gal. tank

Source: MULTI-CLEAN PRODUCTS INC.
2275-79 Ford Parkway, St. Paul 1, Minn

Type MCV-205A employs a motion blower driven by a 3-hp., 110-240 motor, mounted on a 20 gal. tank. Suction is 15 inches of water, capacity is 100 cu. ft. per min. Tank is equipped for dry operation with a 5 gal. collapsible canister. Cleaning tools are 1 in. diameter and 1 in. long, 1 in. diameter and 1 in. long, 1 in. diameter and 1 in. long. Overall dimensions are 20 in. wide, 20 in. deep, 40 in. high. Weight is 100 lb. Tank is equipped with an air pump for dry operation and with a 6 gal. wheel barrow of tank. The machine weighs 90 lb. Dimensions 14 by 23 in. wide.

As Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 30

BREEFITT—Identify by IEN-2200 if you write the maker

BREEFITT—Identify by IEN-2201 if you write the maker

NOW You Can Strip Paint Fast, Safe—at LOW COST!

If your paint-stripping costs have been running too high, start saving money by using any one of these three widely-adopted, low-cost Oakite methods:

HOT FLOW-ON . . . by flooding surfaces with hot solution of Oakite paint-stripping compound. Recommended for non-production stripping.

COLD SPRAY . . . using concentrated cold solutions. Recommended where facilities and equipment are limited.

STEAM GUN . . . by blasting off paint with powerful blend of steam and Oakite stripper applied with the Oakite Solution Steam Gun. Ideal for occasional paint stripping.

For complete details on Accomplishing with Oakite Products, Inc., 163 Thames St., New York 6, New York.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS · METHODS · SERVICE

Technical Service Representatives in Principal Cities of U. S. & Canada

BREEFITT—Identify by IEN-2202 if you write the maker

Joint Connections *made with Engineered Clamps and Couplings*

Source: MARMAN Products Co., Inc.
940 W. Florence Ave., Inglewood, Calif.

A wide line of precision clamps and couplings which meet high and exacting standards for industry. These non-fragmenting clamps and seal various types of flanged pipe and tube, flanges, hoses, tanks, etc. Clamps and supports for attachment of load to round pipe, accessories and other accessories, simplicity of the seal and efficient use of metal with provides high strength with low weight and low cost, easy assembly and disassembly, non-particle sealing and load distribution. Standard designs are available for most requirements, however, completely equipped testing and seal product data and are available at no charge.

Write for catalog or submit us your "hard problems."

Dept. C

MARMAN PRODUCTS CO. INC.
940 W. FLORENCE AVE., INGLEWOOD, CALIF.

BREEFITT—Identify by IEN-2203 if you write the maker

Need Storage Tanks?

Horton* flat-bottom steel tanks are used at numerous plants to store liquids like oil, water, pulp, alcohol, chemicals, etc. These dependable containers are built in standard capacities from 50,000 to 6,000,000 gals. Write our nearest office for quotations stating number of tanks required, capacity, location and diameter and height if special dimensions are required.

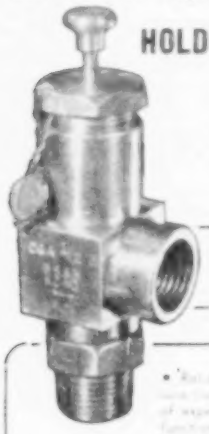
Every tank for tank, look to

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • Salt Lake City
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

IEN-2204

Even after repeated "popping" . . .

HOLDS REFRIGERANT WITHOUT LEAKING



the new BS&B Refrigerant Relief Valve

• "Relieves refrigerant systems from pressure rises . . . seats tightly to prevent loss of expensive refrigerant. Even after it has functioned repeatedly, no trace of leakage is evident."

The BS&B Refrigerant Relief Valve is a high-quality product . . . engineered to close tolerances, precise in its action. Functions properly with SAFETY HEAD rupture device on jacket. Has ASME Unfired Pressure Vessel Code, Par. U-68(c). Furnished with ¼, ⅜ and ½ inch pipe thread inlet. Available now in any quantity. Write TODAY for full details.

BLACK, SIVALLS & BRYSON, INC.
Section TX-1
701 DELAWARE KANSAS CITY 6, MO.

IEN-2205

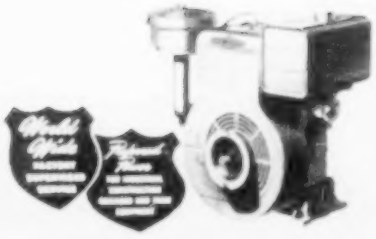
Confidence

4 CYCLE
BRIGGS & STRATTON
GASOLINE ENGINES

You buy with confidence because you know machines, tools, appliances and equipment are "Powered Right" when they are powered by Briggs & Stratton.

The Briggs & Stratton trademark on your assurance of maximum efficiency, dependable service, and long life. Always insist on Briggs & Stratton Gasoline Engines when ordering equipment.

BRIGGS & STRATTON CORPORATION
Milwaukee 10, Wisconsin, U.S.A.



IEN-2207

SWITCH . . Panelboard assembly for group and branch lighting circuits

Source: TRUMBULL ELECTRIC MFG. CO.
39-42 Woodford Ave., Plainville, Conn.

Electric molded . . .

Two or three pole . . .

IEN-2208

CONDUIT . . Flexible metal tube. Geon covered for wiring in a machine

Source: CHICAGO METAL HOSE CORP.
1313 S. 3rd St., Maywood, Ill.

The flexible tube is galvanized steel . . .

Flexibility . . .

Liquid tight . . .

IEN-2209

HEATING . . Electric element clamps to a round tank bottom, to 1 kw.

Source: EDWIN L. WIEGAND CO.
7505 Thomas Blvd., Pittsburgh 8, Pa.

Dished Ring . . .

Nickel chromium . . .

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

IEN-2210

IEN-2211

IEN-2212

IEN-2213

Tapered Roller Bearings at both ends of the crankshaft take on load. Thrust and Radial Load components are other years of experience. You should take advantage of the extended durability of your Wisconsin Engine without the usual increased repair bills.

Tapered Roller Bearings are Wisconsin's answer to overhung pulley loads, and to the demand for longer life without increased costs. Wisconsin Engines without the usual increased repair bills.

Tapered Roller Bearings are Wisconsin's answer to overhung pulley loads, and to the demand for longer life without increased costs. Wisconsin Engines without the usual increased repair bills.

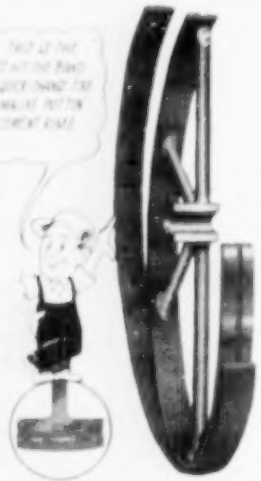
The use of Tapered Roller Bearings in Air Wisconsin Engines has the greatest in the largest . . . 2 to 30 hp., single cylinder, 2-cylinder and Regulator . . . is typical of the engineering designed into your cooling the gear with . . . Most 10 P. Hours of on the job service.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 14, WISCONSIN

BREVITY—Identify by IEN-2214 if you write the maker

JIFFY Carter TIRE

Millwright's
The Answer to a Maiden's Prayer



At last! The new "Jiffy-Tire" is made to slip on to fit any hand saw wheel. Time on to few than 5 min. gear, no cement, glue, rivet, bolts or special tools! All you do is tap the wheel into the tire with a rawhide mallet.

Note: The "Jiffy-Tire" is made of genuine, resilient, tread-rubber. A steel backbone supports Carter's patented "grip-tite" rubber cleats. Once the tire is on the wheel, no applied force can wrench it loose. Perfectly balanced... finished with crowned face for even blade tension.

WRITE TODAY! ... for your free, illustrated folder. Jiffy-Tires are available through the manufacturer of your hardsaw machine only.

Carter PRODUCTS COMPANY
904 Michigan Trust Bldg., Grand Rapids 9, Mich. U.S.A.

BREVITY—Identify by IEN-2215 if you write the maker

LIFT OR LOWER – FLOOR TO FLOOR

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft., floor elevations of 8 ft. to 14 ft. 6 inches to choice; two belt widths to handle commodities 18½ inches to 25½ inches wide. Electric motor operated. Write for Bulletin No. IEN-40.

Standard Conveyor Company
North St. Paul, Minn.

Sales and Service in Principal Cities

Standard
GRAVITY & POWER CONVEYORS

BREVITY—Identify by IEN-2216 if you write the maker

Outwear ordinary work gloves
3 to 9 TIMES—Cut your costs

Edmont gloves coated with NEOX (reinforced neoprene) resist cutting and abrasion as well as oil, acid, caustic, solvents.

Strong lining reinforces, prevents snags, makes gloves comfortable, easy on and off.

In overall or palm and thumb coated styles. Also natural rubber or plastic.

Edmont
FABRIC-LINED NEOX-COATED GLOVES

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Identification, size of the material, information it contains so you can judge its value to you.

ALUMINUM ... Extrusions, plate, coils, sheet, sizes, properties chart, product examples. "Aluminum," 20 pages. Revere Copper & Brass, 230 Park Ave., Rm. 3626, New York 17, N. Y. IEN-0551

BEARINGS ... General purpose bronze bearings, motor bearings, dimensions, size and specifications data, 100% oiling, 16 pages. Johnson Bronze Co., 401 S. Mill St., New Castle, Pa. IEN-0552

BEARINGS ... Motor, commercial fan bearings. Dimensions and load tables, specifications. Bulletin 30, 12 pages. New Hampshire Ball Bearings Inc., 1 Granite St., Peterborough, N. H. IEN-0553

BELTS ... Woven-wire conveyor belts, weaves, list prices, engineering data. "Metallurgical Belts," 60 pages. Anderson Wire Cloth Corp., Cassel & Berkinshaw, Philadelphia 34, Pa. IEN-0554

BELTS ... Woven-cotton conveyor belts, suggestions, list prices on 30 widths and 7 thicknesses. Folder, 6 pages. Buffalo Weaving & Belting, 180 Chandler St., Buffalo 7, N. Y. IEN-0555

BOILERS ... Self-contained steam boilers for process and heat, oil or gas, cutaway view, uses. Bulletin 102-129, 16 pages. Cleaver-Brooks Co., 316 W. E. Keefe Ave., Milwaukee 12, Wis. IEN-0556

BRONZE ... Cored and solid bars as-cast, marbleized, dimensions, weights, stock sizes. "Tiger Bronze," 8 pages. American Brake Shoe Co., 230 Park Ave., Rm. 1900, New York 17, N. Y. IEN-0557

BUILDINGS ... Movable metal partitions, specifications, erection, accessories, installations. Catalog 30, 48 pages. Mills Co., 973-77 Warwick Road, Cleveland 10, Ohio. IEN-0558

BUILDINGS ... "Nailock" steel nailing channel for suspended ceiling, other construction; drawings, details. Catalog N-2, 8 pages. Nailock Steel Div., 1909 Urbana Rd., Cleveland 12, Ohio. IEN-0559

CHEMICALS ... Data summaries on a variety of materials including plastics. "Products," 88 pages. American Cyanamid Co., 30 Rockefeller Plaza, Rm. 3626, New York 20, N. Y. IEN-0560

CHUCKS ... Quick-change chucks and collets. Illustrated specifications, sizes, list prices. Folder T-1, 8 pages. Scully-Jones & Co., 1956 S. Rockwell St., Chicago 8, Ill. IEN-0561

CLEANING ... Rotary-brush floor machine, applications, notes on adjustable handle. Pocket folder A-97, 4 pages. S. C. Lawler Co., 123-28 N. Aberdeen St., Chicago 7, Ill. IEN-0562

CLEANING ... Portable machine to clean surfaces and equipment with hot water jet; operation, uses. "Hi-Pressure," 4 pages. Sellers Injector Corp., 1805 Hamilton, Philadelphia 30, Pa. IEN-0563

CLUTCHES ... "Maxitorq" floating-disc clutches; design points, models, ratings, applications. Catalog 30, 24 pages. Carlyle Johnson Machine Co., Box 293, Manchester, Conn. IEN-0564

COMPRESSORS ... "Unitaire" WL-80 two-stage air compressor, 81 to 400 cfm; selection and construction data. Bulletin A-56, 16 pages. Joy Mfg. Co., 480 Oliver Bldg., Pittsburgh 22, Pa. IEN-0565

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 50

BREVITY—Identify by IEN-2217 if you write the maker

FOR THESE Extras

LONGER SERVICE
LESS MAINTENANCE
HIGHER PERFORMANCE

use STAINLESS STEEL FLOATS

You can be certain of all your float requirements by selecting your stainless steel floats from Chicago Float Works. Top quality control insures and free maintenance. Stainless Steel Floats resist corrosion, have well-rounded edges, high temperature uses and pressures. Equipped with [illegible] against collapsing and free of sharp edges and points to tear. Experienced fabricators of stainless steel floats. Insure your float is right. Use Chicago Steel Floats and leverage of long experience in operation!

WRITE FOR FREE CATALOG

This illustrated catalog gives complete details of stainless, steel compositions and size ranges, data on Chicago's complete line of standard or special floats.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

BREVITY—Identify by IEN-2218 if you write the maker

New Checkweighing Scale for Filled Bags

Here is a new EXACT WEIGHT high-speed precision scale designed for checkweighing filled bags. Handles either valve pack type bag which comes down conveyor and crosses scale on its side or open mouth type bag in upright position. Scale is set in conveyor line after filling machine. Each bag is weighed, correct bags going to sewing machine, over and underweight bags removed for trimming. Features are (1) checkweighs each bag; (2) fits into any production line; (3) illuminated dial that warns operator when filling machine adjustments should be made; (4) standard capacity to 100 lbs., more weight if needed. For full details write for circular covering EXACT WEIGHT Model #1302-R.

EXACT WEIGHT SCALES
Industrial Precision
THE EXACT WEIGHT SCALE COMPANY
130 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

BREVITY—Identify by IEN-2219 if you write the maker

here's a remedy for compound headaches

Special or unusual compounds to be heated to critical temperatures or dispensed in unusual ways can develop costly headaches for Productioneers

For heating and handling special compounds having singular requirements, here's a suggestion:

WRITE FOR Sta Warm DATA SHEET and QUESTIONNAIRE

The "Data Sheet" will help you organize your compound melting problem for orderly solution, help you analyze major factors affecting the desired end result. It will help you write sound specifications for the compound heater or dispenser your job requires. In itself this amount of organized information will be highly useful to you.

Then, for practical solution, return a copy to Sta-Warm engineers for their recommendations. From their years of specialized experience you can have the remedy for your current compound headache.

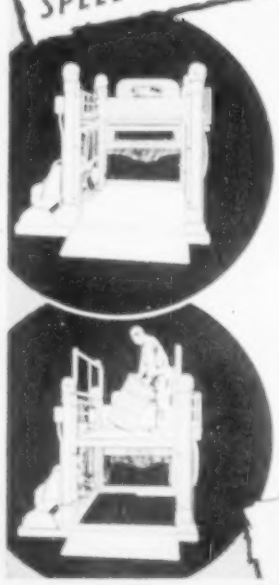
No obligation, write for the Data Sheet today.

Popular standard 50 gal. melter with motor driven agitator and molasses gate valve. Variable thermostat.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST. • RAVENNA, OHIO

BREVITY—Identify by IEN-2220 if you write the maker

Easy Way to . . . SPEED UP YOUR SHIPPING!



ATLAS
ONE-MAN
TRUCK
LOADER

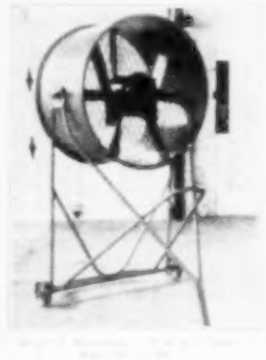
The Portable Loading Platform

- 1 to 3 ton capacity
- Up to 20 ft. range
- Easily moved on retractable casters

ATLAS INDUSTRIAL CORP.
847 - 37th Street
Brooklyn 32, N. Y.

BREVITY—Identify by IEN-2221 if you write the maker

ADD COMFORT . . . SPEED PRODUCTION with Aerovent MAN COOLING FANS



Certified Ratings

WRITE TODAY FOR ENGINEERING BULLETIN

AEROVENT FAN CO., Inc.

Ash & Brown Streets, Piqua, Ohio

Competent Sales Engineers in Principal Cities

BREVITY—Identify by IEN-2222 if you write the maker

NEW SPEED REDUCTION PACKAGE . . . FOR THRIFTY USE OF SPACE AND POWER

WINSMITH SPEED REDUCERS

FREE

WINFIELD H. SMITH CORP.

10 Davis Street • Springville • Erie County • New York

BREVITY—Identify by IEN-2223 if you write the maker

INCREASES PRODUCTION, CUTS COST

UNITIZED CONVEYOR TABLES ONE-PIECE FORMED STEEL BED

WRITE TODAY FOR BULLETIN IP-1A

ISLAND EQUIPMENT CORPORATION

27-01 Bridge Plaza, North • Long Island City 1, N. Y.

NEW LITERATURE—Continued

"A comprehensive look at this month's catalogs"

CONDUIT . . . Rigid and flexible conduit, models, fittings, types, sizes, details. Catalog 900, 32 pages. National Electric Products Corp., [illegible] Bldg., Pittsburgh 30, Pa. IEN-0266

CONTROLS . . . Photoelectric equipment to control combustion by flue-gas density; drawing, description. Bulletin 21, 4 pages. Brooks Engineering Co., 4515-19 Wayne Ave., Philadelphia 44, Pa. IEN-0267

CONTROLS . . . Indicating unit for material level in a bin; sectional view, operation, uses. Folder "Bin-Eye," 8 pages. Jeffrey Mfg. Co., [illegible] N. 4th St., Columbus 16, Ohio. IEN-0268

CONTROLS . . . For furnace temperature, pressure, air-fuel ratio; components, diagrams. Folder [illegible], 4 pages. Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia 44, Pa. IEN-0269

CONTROLS . . . [illegible] Magnetrol Inc., [illegible] Marshall Blvd., Chicago 23, Ill. IEN-0270

CONTROLS . . . Punch-card equipment for inventory and other control; [illegible] 4 pages. Remington Rand Inc., 315 Fourth Ave., [illegible] New York 10, N. Y. IEN-0271

CONTROLS . . . [illegible] Selas Corp. of America, [illegible] Erie, Philadelphia 34, Pa. IEN-0272

CONSTRUCTION . . . [illegible] truck type concrete mixer; details [illegible] 4 pages. Chain Belt Co., [illegible] W. Bruce St., Milwaukee 4, Wis. IEN-0273

CONSTRUCTION . . . Rubber tire machine to dig trenches 5 or 8 in. wide to 4 ft. deep; features, uses. Bulletin "Trenchmaster 80," 8 pages. Parsons Co., [illegible] St., Newton, Iowa. IEN-0274

CORROSION PROOFING . . . Rust preventive oil for parts in process or storage; properties, uses. Booklet F-7706, 18 pages. Oakite Products Inc., 18-A Thames St., New York 6, N. Y. IEN-0275

COUNTING . . . Illustrated summary on 20 types including tripped, motor driven, ticket printing units. Bulletin [illegible], 8 pages. Richardson Scale Co., 666-700 Van Houten, Clifton, N. J. IEN-0276

DIE CASTING . . . Hydraulic machine, 1 to 4 lb. per shot in zinc; specifications. "Model 50," 4 pages. Cleveland Automatic Machine Co., [illegible] Beech St., Cincinnati 12, Ohio. IEN-0277

DRIVES . . . Sheaves, flexible couplings, shaft collars, V-belts, selection tables, list prices. Catalog CD-200-A, 16 pages. Congress Drives Div., 2752 E. Outer Drive, Detroit 34, Mich. IEN-0278

DRIVES . . . Parallel-shaft speed reducers with sleeve bearings; selection data, rating tables. Bulletin 1110, 24 pages. Falk Corp., 3004 W. Canal St., Milwaukee 8, Wis. IEN-0279

DRYING . . . Continuous centrifugal dryer for fine coal sizes; operating view, description. Bulletin 1149, 4 pages. McNally Pittsburg Mfg. Corp., 2306-12 Langdon, Pittsburg, Kans. IEN-0280

DRYING . . . Electric and steam heated drying units for process laboratory use; descriptions. Bulletin 340, 4 pages. Proctor & Schwartz, 726-30 Tabor Rd., Philadelphia 20, Pa. IEN-0281

DUST COLLECTING . . . "Dustube" equipment for rubber product manufacture; drawings, notes. Bulletin 242, 4 pages. American Wheelabrator, 730 S. Byrkit, Mishawaka, Ind. IEN-0282

DUST COLLECTING . . . "Hydro-Clone" vertical wet-type units; cut-away view, description, dimensions. Bulletin FT-102, 4 pages. Whiting Corp., 15629 S. Lathrop Ave., Harvey, Ill. IEN-0283

ELECTRONIC TUBES . . . Type 6CB6 miniature sharp-cutoff pentode for rf. and 40 mc. if. service; ratings, curves. "6CB6," 2 pages. Radio Corp. of America, 415-17 S. 5th St., Harrison, N. J. IEN-0284

ELEVATORS . . . Portable hand-operated elevating table; data and uses for three models to 5000 lb. Bulletin P-50, 4 pages. Hamilton Tool Co., Hanover at 9th St., Hamilton, Ohio. IEN-0285

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . *See Page 50*

BREVITY—Identify by IEN-2224 if you write the maker

PIPE MARKERS anyone can use—everyone can read

QUIK-LABEL Pipe Markers conform to American Standards Association Pipe Identification System. ... including all materials listed in ASA Standard A13. ... QUIK-LABELS leave no room for doubt . . . or tragedy.

FREE SAMPLES

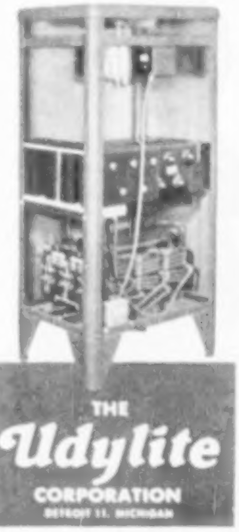
W. H. BRADY COMPANY Established 1914

Manufacturers of Self-Sticking Tape Products

CHIPPEWA FALLS 9, WISCONSIN • Distributors in 125 Cities

BREVITY—Identify by IEN-2225 if you write the maker

TEN YEARS OF TOP PERFORMANCE . . . 10,000,000 AMPERES



THE Udylite CORPORATION DETROIT 11, MICHIGAN

THE UDYLITE-MALLORY RECTOPLATER

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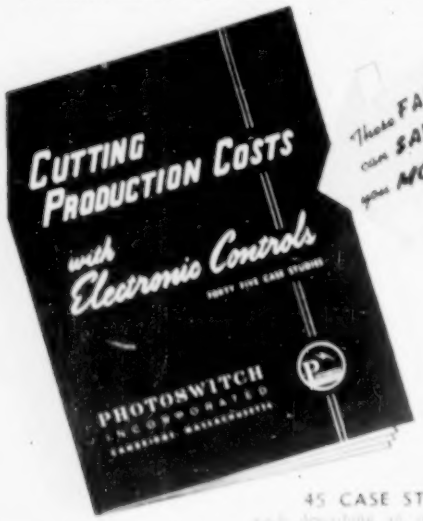

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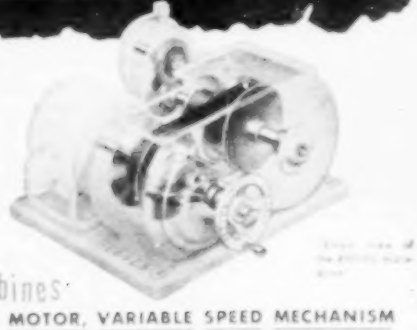

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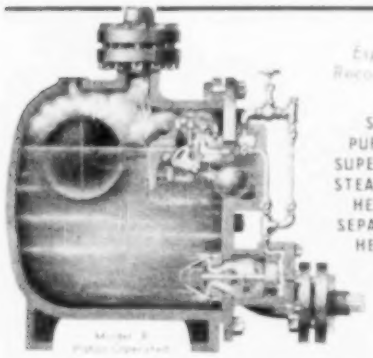

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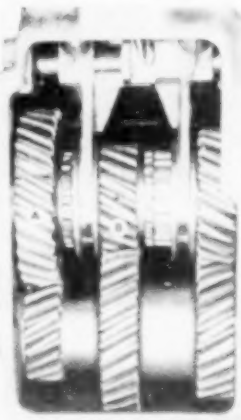

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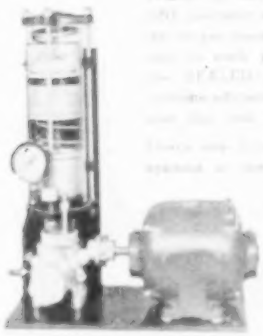

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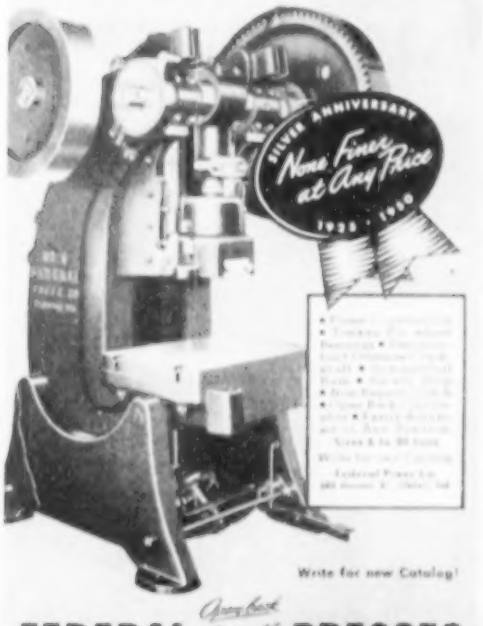

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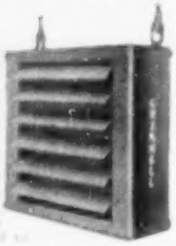

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PROCESSING . . . "Karbate" heat exchangers Series 20-A; detail drawings, rating tables. Catalog M-8806, 4 pages. National Carbon Co., 30 E. 42nd St., Rm. 308, New York 17, N. Y. IEN-0328

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PUMPS . . . Oil hydraulic pumps and controls; catalog data, operating views, design suggestions. Catalog 4205, 48 pages. Vickers Inc., 1398 Oakman Blvd., Detroit 32, Mich. IEN-0332

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SWITCHES . . . Type A Style HCI safety switch, 30 to 100 amp.; construction, operation diagram. Folder "HI" 10, 6 pages. Trumbull Electric Mfg. Co., 39-43 Woodford, Plainville, Conn. IEN-0345

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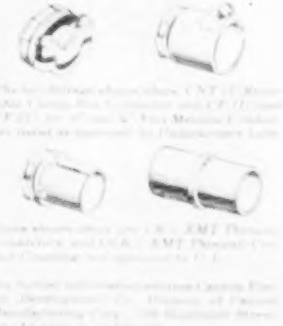

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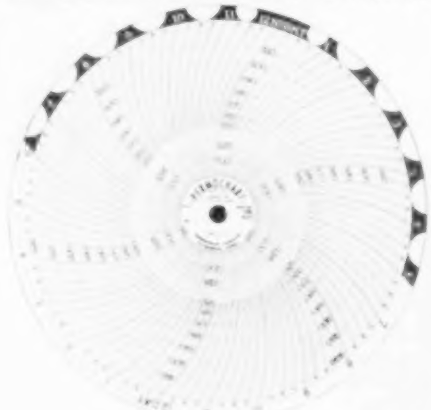

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TESTING . . . Experimental extension test panel for instruction use; details with use of circuits. "Circuit Panel 606," 4 pages. Sciaky Laboratories, 349-16 41st Ave., Flushing, N. Y. IEN-0547

TESTING . . . "Tinius" mass spectrometer leak detector; schematic, description, applications. Bulletin LD-6, 4 pages. Varian-Eimac Engineering Co., 3rd Ave. & 25th, Brooklyn 32, N. Y. IEN-0548

TIMING . . . Tension timers, time selection, instruction, transfer section, data accessories. "Automatic Timing Equipment," 8 pages. Tenco Electric Co., 334 W. Washington, Chicago 20, Ill. IEN-0549

TRUCKS . . . Fork lift units applied to a plant making grain food items; models and uses. "Fork Truck Sec. 40," 4 pages. Towmotor Corp., 154-26 E. 152nd St., Cleveland 10, Ohio. IEN-0550

TRUCKS . . . "Pak Loader" pallet fork truck for handling packaged products; illustrated steps. Folder F-1173, 4 pages. Yale & Towne Mfg. Co., 4529-32 Tacony, Philadelphia 24, Pa. IEN-0551

TUBES . . . Flexible metal tubes, corrugated interlocking designs, sizes, ratings, also bellows. Catalog 5, 16 pages. U. S. Flexible Tubing Co., 126-33 Main St., Bartlett, Ill. IEN-0552

TUBES . . . "Tygon" flexible plastic tube; properties, chemical resistance, also tables, uses. Bulletin 7-77, 24 pages. United States Stoneware Co., Brimfield Road, Akron 9, Ohio. IEN-0553

VALVES . . . Butterfly-type units for 50-lb. service; types, also tables, power operators. Catalog 19, 12 pages. B-S Products Corp., 4529-32 Germantown Ave., Philadelphia 44, Pa. IEN-0554

VIBRATING . . . Mechanical-type unit for rock scaling; construction, operation, mounting. Bulletin 131, 4 pages. Robins Conveyors Div., 298-72 Passaic Ave., Passaic, N. J. IEN-0555

WATER TREATING . . . Material to remove boiler scale; details "Sand-Sanum" Story," 16 pages. American Sand-Sanum Co., 6 Rockefeller Plaza, Rm. 1616, New York 20, N. Y. IEN-0556

WATER TREATING . . . Ion exchange equipment to demineralize water; operation diagrams, analysis. Bulletin 54, 8 pages. Beico Industrial Equipment Div., 42 Iowa Ave., Paterson 3, N. J. IEN-0557

WATER TREATING . . . Materials and application service for boiler water treatment; illustrated steps. Booklet, 8 pages. E. F. Drew & Co., 15 E. 26th St., Rm. 2025A, New York 10, N. Y. IEN-0558

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WEIGHING . . . Model E-50 automatic bagging scale; feed arrangements, specifications, accessories. Bulletin 5749, 4 pages. Richardson Scale Co., 606-700 Van Houten, Clifton, N. J. IEN-0560

WELDING . . . Positioners for work to be arc welded, 200 to 1,000 lb.; models, methods of use. "Universal Positioners," 4 pages. Aronson Machine Co., West Main St., Arcade, N. Y. IEN-0561

WELDING . . . Torches, tips, regulators for gas welding, cutting, soldering; illustrated data, accessories. 1950 Catalog, 48 pages. Harkess Corp., 9645 Wabash Ave., Detroit 8, Mich. IEN-0562

WELDING . . . "Rankin" hard-surfacing electrodes and rods; types, properties, application data. Bulletin 0-1, 8 pages. Rankin Mfg. Co., 5670-74 W. Pico, Los Angeles 6, Calif. IEN-0563

WINDOWS . . . Steel windows and doors; details drawings, specifications, operators, hardware. 1950 catalog, 30 pages. William Harvey Co., 1900 Warder St., Springfield 46, Ohio. IEN-0564

WOOD WORKING . . . Sanding machines, jointers, lathes, sanders, drill presses, grinders; data accessories. "Power Tools," 8 pages. Delta Metal Products, 2941-51 N. Kenton, Chicago 39, Ill. IEN-0565

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

BREVITY—Identify by IEN - 2252 if you write the maker

FABRICATIONS and FITTINGS
Accurately Built to Your Specifications

Shown here are fabrications typical of the service provided by Naylor engineers. Special fittings, manifolds, piping and other equipment from simple units to the most complicated layouts can be precision built to meet your most rigid requirements.

Write for details or send specifications for quotation.

NAYLOR PIPE COMPANY
1235 East 92nd Street, Chicago 19, Illinois
New York Office: 250 Madison Avenue, New York 17, N. Y.

BREVITY—Identify by IEN - 2253 if you write the maker

FOR *Better Drilling*

SOUTH BEND
Precision
DRILL PRESS

14" BENCH MODEL DRILL PRESS with chuck, light, vise & g. . . . 115 V. . . . $129.30
TIME PAYMENTS: $43.10 down, $8.40 for 12 months. Finance charge included.

"Time Payment Terms available. For complete information on "Best Buyers" 10" Drill Presses, Lathes with 9", 10", 13", 14", 16" and 20-24" swings, ask "A" and "T" series Tracer Lathes now in stock.

SOUTH BEND LATHE
Building Better Tools Since 1906
SOUTH BEND, INDIANA

BREVITY—Identify by IEN - 2254 if you write the maker

Dick 960 A B Dick 960 A B Dick 960
DUPLICATORS • MIMEOGRAPHS • MIMEOSCOPES

NEW A. B. DICK MIMEOGRAPHS
black-on-white COPIES or colored copies of anything typed, written or drawn . . .
produced FAST on most all paper and card stocks at speeds ranging up to 180 copies per minute . . .
and EASY on today's A. B. Dick mimeographs with many new features and improvements for more efficient operation.
WRITE TODAY for full details

A·B·DICK COMPANY
5700 Touhy Ave. • Chicago 31, Illinois
For use with all makes of suitable stencil duplicating products

BREVITY—Identify by IEN - 2255 if you write the maker

Only HEIN-WERNER HYDRAULIC JACKS have all these features . .

★ PLANT MAINTENANCE MEN FIND 1001 USES FOR H-W JACKS

Great for pushing, pulling, pressing, bending, lifting heavy objects. Made in models of 1½, 2, 3, 5, 12, 20, 30, 50 and 100 tons capacity.

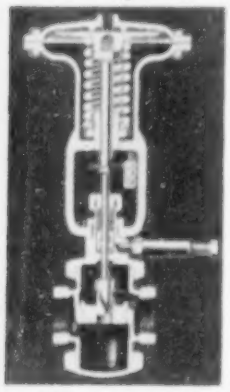
Hein-Werner Hydraulic Jacks

For details, consult your industrial distributor, or write to:
HEIN-WERNER CORP.
WAUKESHA, WIS.

IEN 2256

FISHER TYPE 510-S

PRESSURE REGULATOR and DIAPHRAGM CONTROL VALVE



FISHER GOVERNOR CO., Marshalltown, Ia.

IEN 2257

FROM ONE RELIABLE SOURCE

GENERAL BOX COMPANY

★ ★ ★ ★ ★ engineered shipping containers

GENERAL OFFICES: 188 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Muskegon, Sheboygan, Winchendon • Continental Box Company, Inc., Houston, Dallas

IEN 2258

REDUCE CONTROL COSTS TO A FRACTION

with the VICKERS Standard MAGNETIC AMPLIFIER

VICKERS ELECTRIC DIVISION

A DIVISION OF THE VICKERS CORPORATION

IEN 2259

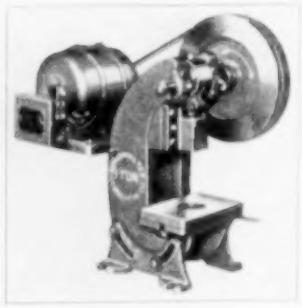
FASTENING . . Captive cap screws and pilot nuts help in field servicing

Source: ALDEN PRODUCTS CO.
115-19 N. Main St., Brockton 64, Mass.

IEN 2260

PRESS . . Miniature open back, inclinable, 3/4 in. stroke, 1 ton

Source: BENCHMASTER MFG. CO.
2950-54 W. Pico Blvd., Los Angeles 6, Calif.



New design in the construction of Morgan presses, previously developed for H.A.PETERS, includes supporting for a motor, cam in the crown frame. It is more than a change-over design and is equipped with a wing that takes the weight of motor and motor base on V-belt. The motor mounting has been eliminated to permit the use of a standard unit. The clutch mechanism has been improved and automatic lubrication fittings have been added.

Drive rails for a 75-hp. motor range 1,425 rpm. for 200 strokes per minute. The 3/4-in. crankshaft takes a replaceable bronze bushings. It is driven by a four-speed clutch and 20-in. O.D. flywheel. Overall height is 127½ inches. The bolster plate measures 8 by 6 inches. The 1-inch x 2½-inch stroke is adjustable to five positions by hand wheel.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 10

IEN 2261

PROTECT

your expensive dies and machine parts

USE

ACME

RED OR BLUE LABEL

PRECISION

DOWEL PINS

Acme Dowel Pins break before bending or mushrooming—thus saving expensive equipment from ruin through misalignment. Order standard sizes from stock. Attractive prices on special sizes and large quantities.

WRITE FOR ENGINEERING LITERATURE

Acme Industrial Company

Makers of Standardized Jig & Fixture Bushings
215 N. Laflin Street • Chicago 7, Illinois

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

IEN 2262

Need a Special Pallet?

NATIONAL has a model for every purpose

Here's the new "National Utility"

Low in cost and light weight, although built for rugged use, the new "National Utility" has been accepted and approved as a general purpose pallet. The patented four-way entry is an especially attractive feature, and the three-board cover and skirt is non-flammable.

Write us for prices and catalogue on the "National Utility" and interested inquiries for complete line of pallets and skids.

NATIONAL PALLET CORP.

MAIN OFFICES: OLIVER BUILDING PITTSBURGH 22, PA.

IEN 2263

Get BETTER PRODUCTS, LONGER TOOL and DIE LIFE with PANGBORN "Hydro-Finish"

PANGBORN HYDRO-FINISH PROCESS [illegible] Long Life Tool Life. Use Hydro-Finish Process for Better Products, Longer Tool and Die Life.

BETTER PRODUCTS

LONGER TOOL AND DIE LIFE

GET THE FACTS

PANGBORNITE

Look to Pangborn for the ideal arrangement in Blast Cleaning and Dust Control Equipment

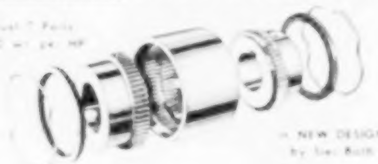
Pangborn

BLAST CLEANS CHEAPER

with the right equipment for every job

IEN 2265

SIMPLICITY CUTS COUPLING COSTS



A NEW DESIGN by Sier-Bath

All metal parts are forged high carbon steel—neoprene seals withstand high temperatures. Teeth are cut with minimum backlash—allow 3° total angular misalignment, from 1/16" parallel misalignment, depending on size.

Sier-Bath GEAR and PUMP CO., Inc.

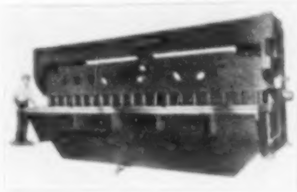
Member A.G.M.A.

HUDSON BOULEVARD NORTH BERGEN, N. J.

IEN 2268

SHEARING . . Pivoted blade machine rates 18 ft. of 3/16-in. mild steel

Source: CLEVELAND CRANE & ENGINEERING CO
1137 E. 283rd Street, Wickliffe, Ohio



IEN 2269

HOSE . . Rubber and braided cord carries hot oil and water to 200 lb.

Source: REPUBLIC RUBBER DIV
1406-12 Albert St., Youngstown 1, Ohio

Suited for rough service

IEN 2270

WIRE . . In cold finished shapes Inconel, Monel, nickel, stainless steel

Source: ALLOY METAL WIRE CO
Penn Ave. & 13th, Prospect Park, Pa.

IEN 2272

DON'T BLOW YOUR TOP!

SAVE TIME • MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

CLEMENTS CADILLAC

Made in 3 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS MFG. CO.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

IEN 2266

Now... Bigger TO SERVE INDUSTRY BETTER!

AETNA BALL AND ROLLER BEARING COMPANY

Aetna

IEN 2273

FROM REMOVING PAINT AND GENERAL MAINTENANCE...

. . . To Finishing Fine Pianos . . .

OPPOSED PAD RECIPROCATION

Free Additional Data

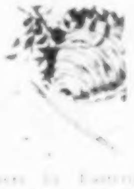
SUNDSTRAND

Sanders Produce a Better Finish in Less Time

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC MACHINE DIVISION
ROCKFORD, ILLINOIS, U.S.A.

IEN 2267

HOW TO KEEP THINGS STIRRED UP IN THE FOOD, CHEMICAL AND PETROLEUM INDUSTRIES . . .



WRITE FOR COMPLETE INFORMATION

Eastern INDUSTRIES, INC.

6 REGENT ST., EAST NORWALK, CONN.

IEN 2271

CUT PAINTING COSTS Right Down the Line—WITH Gold Stripe BRUSHES!

See your supplier

PITTSBURGH Gold Stripe BRUSHES

BRUSHES • PAINT • GLASS • CHEMICALS • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

IEN 2274

IT'S TIME TO INVESTIGATE

"BEAR" STATIC AND DY-NAMIC BALANCING MACHINES

BREFITT—Identify by IEN-2275 if you write the maker

From the same amount of stainless steel required to produce one solid sheet of any given gauge, we make five sheets of IngAclad.

We bond front stainless to carbon steel in the proportion of one to four. This gives you easily fabricated sheets of IngAclad at about half the cost of the solid metal for use in installations where stainless protection is needed only on the contact side. Your budget for "stainless" goes farther. Consult our engineers—without obligation. INGERSOLL Steel Division, Borg Warner Corporation, 310 South Michigan Avenue, Chicago 4, Illinois.

Also makers of Solid Stainless and Heat Resisting Steels

BREFITT—Identify by IEN-2276 if you write the maker

1. EVERY DART . . . is precision-machined to a true ball point then spherically ground to give wide, true bearing surfaces. Reasons why Darts are always leakproof.

2. EXTRA-WIDE BRONZE SEATS . . . resist pitting, electrolysis and corrosion . . . stay drop-tight.

3. EXTRA-HEAVY SHOULDERS . . . shrug off wrench abuse through dozens of installations.

4. PRACTICALLY INDESTRUCTIBLE . . . body and nut of air-toughened, high test malleable iron resists stress, stretching and wrenching.

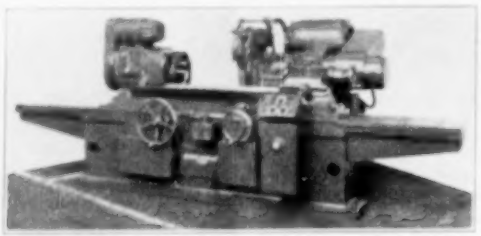
E. M. DART MANUFACTURING CO.
PROVIDENCE 5, RHODE ISLAND

BREFITT—Identify by IEN-2277 if you write the maker

BREFITT—Identify by IEN-2278 if you write the maker

GRINDING . . Cylindrical machine, employs electronic traverse control

Source: CINCINNATI MILLING & GRINDING MACHINES INC. Marburg & Kline Sts., Cincinnati 9, Ohio



Two sizes, 14 and 16 in., are included in a new line of plain cylindrical grinding machines in which the table traverse is motor driven with electronic control for speed variation between 3 and 120 inches per minute. The traverse motor operates through a rack and pinion. It is a 1-hp. dc unit taking power through the control from an ac line. The action is similar to hydraulic table drive. Automatic acceleration and deceleration apply on table reversal to eliminate shock. Dwell can be set between 0 and 18 seconds. Both swing sizes are available in 7 lengths to handle 36 to 168 in. between centers.

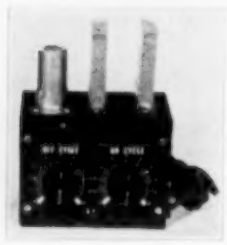
The wheelhead mounts a 30 by 3 by 12-in. wheel on the company's Filmatic bearings and drives with a 20 hp. motor. Wheel speed is 850 rpm. The headstock is driven by a 1½ hp. motor on the 14-in. machine, 2 hp. on the 16-in. size. These motors are dc and have rheostat control for speed variation. Range is 40 to 144 rpm. and 20 to 72 rpm.

Publication G-591, 12 pages, illustrates the machine, lists highlights in the design, details the Filmatic bearing and its action, presents dimension data, specifications, and lists equipment available at added cost.

BREFITT—Identify by IEN-2279 if you write the maker

TIMING . . Electronic interval unit for single or repeat cycle operation

Source: G. C. WILSON & CO. N. Passaic Ave., Chatham, N. J.



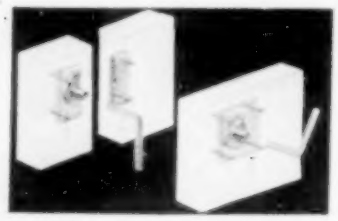
Cyclo-Flex is a new combination of "on" and "off" cycle timer that can be set up with the "off" unit at zero for manually initiated single-cycle operation or with the two adjustable units working together for predetermined "on" and "off" intervals. The "on" range is between ½ and 3 seconds. The "off" range is 9 to 20 seconds. Operation is on 110-volt 60-cycle ac. The single-pole double-throw relay in the control circuit rates 3 amp. on 110-volt ac. The assembly is mounted in a housing that measures 3 by 4 by 5 inches.

Each interval in the operation of the timer is accompanied by relay contact closure and is obtained by charging a resistance-capacitance network. There are no moving parts as a result other than the relay contacts. The one vacuum tube is a standard radio-type unit and can be replaced easily. The timer is available in special construction to meet given requirements in addition to its standard assembly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREFITT—Identify by IEN-2280 if you write the maker

BREFITT—Identify by IEN-2281 if you write the maker



Serrated, tapered cam engages flanges pull panels tightly together when turned by any hand tool.

How to fasten panels securely —and take them apart easily

Roto-Locks fasten demountable panels quickly and securely—at right angles or butt joint. Just turn the tapered cam to lock, turn again to unlock. Check these other Roto-Lock features, too:

1. Roto-Lock carries both heavy shear and tension loads.
2. Exerts enough pressure to form an air- and water-tight seal when gaskets are used.
3. Fastens in any mis-aligned or semi-open position.
4. Recesses *completely* into panels.
5. Has no springs or delicate mechanical parts.

Portable shelters, air freight and cold storage shipping containers, walk-in coolers, demountable furniture and scaffolding are a few of the many products using Roto-Locks. Write today for catalog.

SIMMONS FASTENERS

SPRING-LOCK • QUICK-LOCK • ROTO-LOCK

Simmons Fastener Corp., 1758 N. Broadway, Albany 7, N. Y.

BREFITT—Identify by IEN-2282 if you write the maker

* This is a simple formula, easily applied. Wellman's 40 years' experience are yours for the asking.

Quality Castings in magnesium, aluminum or bronze produced to your exact specifications.

Our *three plants* are completely equipped for production from blueprint to finished casting.

Well-Cast lightweight castings are being produced every day for the aircraft, automotive, rubber goods, portable tool, textile, and other industries.

What are your requirements? Catalog No. 50 on request.

* Aluminum and magnesium + Wellman's 40 years' experience equals quality castings.

"WELL-MADE" WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.

2510 EAST 93rd STREET • CLEVELAND 4, OHIO

BREFITT—Identify by IEN-2283 if you write the maker

ERTEL STAINLESS STEEL SELF-PRIMING PUMP

For pumping corrosive liquids, chemicals, drugs, cosmetics, foods, syrups, wines, whiskeys, pharmaceuticals, vinegar, etc.

MODEL ESP

ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK

MANUFACTURERS OF HIGH GRADE ERTEL ASBESTOS FILTER SHEETS • ASBESTOS SHEET FILTERS • CYLINDER TYPE DISC FILTERS • PYROGEN FILTERS • VACUUM BOTTLE FILLERS • MIXERS • CAPPERS • CENTRIFUGAL AND SELF-PRIMING STAINLESS STEEL PUMPS

▼ REFER TO—Identify by IEN-2284 if you write the maker ▼

A TOOL BOX AT YOUR FINGERTIPS

SET NO. 1 FOR SMALL SHOPS

Continental Interchangeable Counterbore sets give you a wide variety of cutting tools in a compact, convenient form. Three sets are available, for the large or small toolroom. Each set features the famous Continental indestructible drive that will not stick, will not break, and is always hand detachable. Full details are given in Bulletin D27161. Send for your copy.

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
Detroit 32, Michigan

CTW

▼ REFER TO—Identify by IEN-2285 if you write the maker ▼

TO MEN who DON'T make washing machines

YOUR PROBLEMS MAY BE "DIFFERENT"

Maybe the material that will answer your problem to a T will not have to undergo repeated immersions in hot soap and detergent solutions and still resist a superb surface finish. Then possibly you could pass by our Durez 14899, a new high-impact phenolic that washing machine people tell us is wonderful.

HIGHER CHEMICAL RESISTANCE,

as well as low water absorption and good dimensional stability are also available in another new material of this type. Durez 14900. These two materials virtually unaffected by 48-hour boiling tests suggest the range of properties you can now have in Durez phenolics. Others are available that do strength and stability. These phenolics reduce and often eliminate the cost of finishing.

A RANGE OF PROPERTIES

such as this is an open invitation to consider moving parts and various parts with various characteristics . . . from now on another of the many Durez phenolics. We will gladly cooperate with you. Durez Plastics & Chemicals, Inc., 175 Walck Road, North Tonawanda, N. Y.

AT THE NATIONAL PLASTICS EXPOSITION
NAVY PIER, CHICAGO, MARCH 28-31
• VISIT THE DUREZ EXHIBIT •

DUREZ

PHENOLIC RESINS
- MOLDING COMPOUNDS
- INDUSTRIAL RESINS
- PROTECTIVE COATING RESINS

▼ REFER TO—Identify by IEN-2287 if you write the maker ▼

BEARING . . Sealed ball bearing employs rubber-fabric sealing washers

Source: NICE BALL BEARING CO.
2940-44 Hunting Park Ave., Philadelphia 40, Pa.

Composition Sealed designates new construction in the company's Series-1000 ground ball bearings and also in its Series-2000 unground units. The construction employs formed side sealing washers in the outer race in combination with rubber-fabric washers or rings on the inner race. Patent application has been made. The seals act to retain lubricant and to exclude dirt from the bearing interior.

The line is available in inner diameters from 3/8 to 1 3/8 inches. Outer diameters measure 3/4 to 2 3/8 inches. Width is 3/8 to 11/16 inches. Series 1000 is recommended for speeds to 5,000 rpm. and Series 2000 for speed to 2,500 rpm. Bulletin 138, 4 pages, illustrates the construction, provides tabulations on dimensions and load capacities.

▼ REFER TO—Identify by IEN-2288 if you write the maker ▼

PLASTIC . . Insulating material supplied in rod, tube, sheet, castings

Source: HOUCHTON LABORATORIES
888-92 N. 4th St., Olean, N. Y.

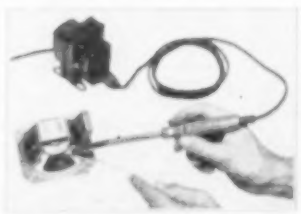
Can be machined as a metal

Hysol 6000 is a new plastic material with electrical insulating and corrosion-resistant properties. Rod and tube are available in lengths to 36 in. and in outside diameters the same as standard pipe. Minimum tube wall measures 1/4 inch. Sheets are made square at 12 by 12 in. and in any thickness to 5 inches. Special sizes are available on quantity order. Castings are to specification, can be of intricate shape and to close tolerances for given requirements.

▼ REFER TO—Identify by IEN-2289 if you write the maker ▼

SOLDERING . . Electric tool heats between split carbon tip points

Source: PALMER MFG. CO.
57-14 37th Ave., Woodside, N. Y.



Solderweld trade names new electric soldering tool that operates on about 6 volts as supplied by a battery or through a suitable transformer from an ac. line to produce an area of heat between the two points of its split carbon electrode. The tool is suited particularly for small work as on electronic equipment. Weight is negligible. Worn carbons can be replaced after loosening a set screw. The tool alone for battery operation lists at $5. List is $7 with the transformer for operation from standard ac. supply.

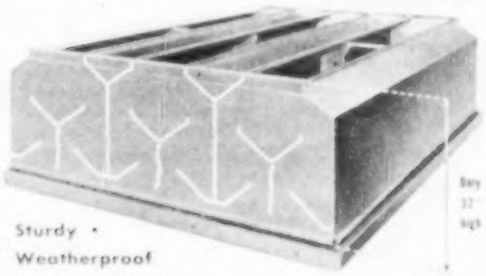
All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ REFER TO—Identify by IEN-2290 if you write the maker ▼

Low Cost Ventilation!

AIRMOVER Roof Ventilator

most economical per square foot of throat area



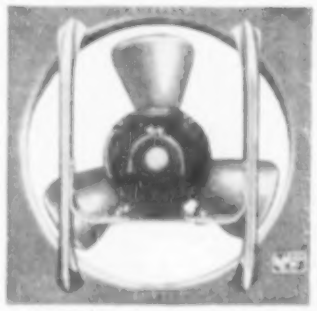
Sturdy • Weatherproof

Revolutionary gravity type that gives you large exhaust capacity . . "open roof" effect or "spot" relief. Adjustable dampers. Thousands in use in all types of industries. Write for Bulletin 116B.

1810 Euclid Avenue, Cleveland 15, Ohio

The Swartwout Co.
Industrial Ventilation Specialists Since 1904
Equipment for Controlled Air Circulation

▼ REFER TO—Identify by IEN-2291 if you write the maker ▼



"Buffalo" BREEZO FANS

FOR LOW-COST FRESH AIR!

Low in first cost, low in installation and operating cost, BREEZO FANS move a lot of air for a little money! Durable, quiet running. Put 'em anywhere you need to remove stale air, fumes, etc., for greater comfort. WRITE FOR BULLETIN 3222-F!

BUFFALO FORGE COMPANY
496 Broadway Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in All Principal Cities

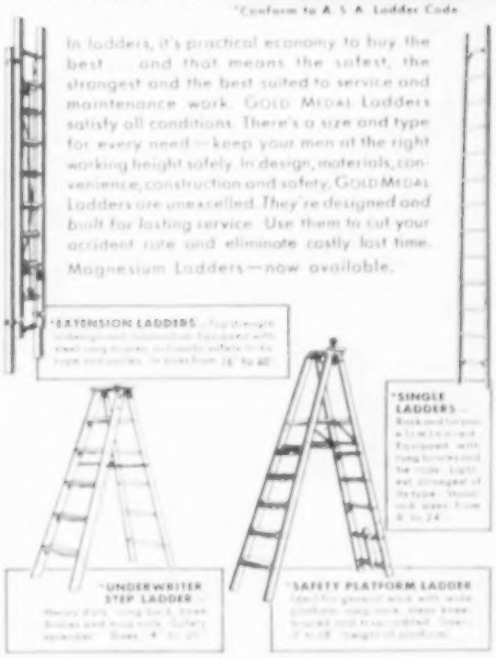
"Buffalo" BREEZO FANS

▼ REFER TO—Identify by IEN-2292 if you write the maker ▼

GOLD MEDAL LADDERS assure safe maintenance work!

*Conform to A. S. A. Ladder Code

In ladders, it's practical economy to buy the best . . . and that means the safest, the strongest and the best suited to service and maintenance work. GOLD MEDAL Ladders satisfy all conditions. There's a size and type for every need—keep your men at the right working height safely. In design, materials, convenience, construction and safety, GOLD MEDAL Ladders are unexcelled. *They're designed and built for lasting service.* Use them to cut your accident rate and eliminate costly lost time. Magnesium Ladders—now available.



Manufacturers of:
GOLD MEDAL Tubelox Steel Scaffolding—Safety Scaffolding Machines—Junior Safety Swinging Scaffolds—Steel Sidewalk Bridges—Ladders, Light Ladders • "TROUBLE SAVER" Sectional Steel Scaffolds—Steel Scaffold Brackets—Adjustable Steel Trestles

Write for Bulletin L-69.

Gold Medal Ladders Scaffolding
FOR GREATER SAFETY . ECONOMY . EFFICIENCY

THE PATENT SCAFFOLDING CO., Inc.
38-21 12th Street, Dept. IE • Long Island City 1, New York
See Your Classified Telephone Directory for nearest GOLD MEDAL Distributor

FREE!!!—details in IEN-2294

THEY BOOST YOUR PROFITS

The BROWN TIME-SAVING RACK saves the time previously lost end-hauling each bar of stock its entire length from the old-style closed-side rack, the Brown Rack requiring but a few inches of side movement. Each length, width and thickness of stock is displayed in goldfish visibility for instant selection. Workmen waiting for stock are served without waste of time, and returned to their production machines to turn out a maximum of output. Any time you require additional storage space, all you need do is to add more units. If you want to relocate it at any time, you can do so, for it is unattached to the building. It is a simple, durable article made of metal in five styles. It can't burn, warp, sag or twist—depreciation is practically nil. SEND FOR BULLETIN No. 26-N DESCRIBING THE

• BROWN TIME-SAVING RACK •

BROWN ENGINEERING CO.
122 NORTH THIRD STREET READING, PENNA.

FREE!!!—details in IEN-2295

The AIRVEYOR

for unloading, conveying and reclaiming fine, crushed and granular materials

Advantages and Economies

SOME MATERIALS CONVEYED
Bulk
Sawdust
Salt Cake
Silica
Limestone
Soda ash
Resin
Celite
Soap chips
Wood chips
Soy beans
Fullers earth
Ferrous sulphate
Malt
Borax
Alum
Calcium oxalate
Stucco
Bauxite
Zinc sulphate
Flaxseed

One-man operation
Absolute cleanliness
Savings by purchasing in bulk
Maintenance requirements negligible
Minimum handling and storage costs
First cost low enough to warrant investment
Simple plant layout—installation made without interrupting present operations

FULLER COMPANY, 110 BRIDGE ST., CATASAUQUA, PA.
CHICAGO 3 — 120 SO. LASALLE ST.
SAN FRANCISCO 4 — CHANCERY BLDG.

FREE!!!—details in IEN-2296

FREE!!!—details in IEN-2297

CONNECTOR . . Socket and plug to connect and ground electric tools

Source: GENERAL ELECTRIC CO.
1283-87 Boston Ave., Bridgeport 2, Conn.

Plastic housed socket and plug are new units in the company's construction materials line, in which standard plug and socket are augmented with third wire grounding connections. Standard two-prong parallel and polarized plug designs are included in the line. The two grounding terminals permit "carry-through" of the ground wire for convenience, modern, uncluttered installations. The new design carries approval by Underwriters' Laboratories Inc.

FREE!!!—details in IEN-2298

VALVE . . Angle needle design, 1/8 and 1/4 in. sizes, O-ring packed

Source: KOHLER CO.
1230 High St., Kohler, Wis.

Type B-192 is a new angle needle valve with a forged aluminum body, accommodates wire seal O-ring packing, the valve is adjustable [illegible] in the open position. The valve is available in sizes 1/8 to 1/4 inch, operates on 40 to 80 psi. The O-ring seal against pressure is 150 lb. to open and 50 lb. to close. The O-ring seal against atmosphere is 150 lb. to open and 50 lb. to close. The O-ring seal against atmosphere is [illegible] to the original [illegible] specifications.

FREE!!!—details in IEN-2299

PACKAGING . . Transparent box made of plastic to hold small parts

Source: GILBERT PLASTICS INC.
1413-17 Chestnut St., Hillside, N. J.

Series 100 [illegible] Each box [illegible]

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

FREE!!!—details in IEN-2300

FREE!!!—details in IEN-2301

FREE!!!—details in IEN-2302

Meyercord's "Mark-It" Manual for the "Best Seller" Idea! Do you know exactly that authoritative guide has become a "bible" for product identification. Leading manufacturers call it our most complete Manual on Decal nameplates now published. In its 16 colorful pages, it tells how America's foremost products are Decal marked by Meyercord—to save time, labor and expense—to provide colorful brand recognition—to give a product permanent identification that only Meyercord Decals.

Write for your FREE copy today. See how hundreds of durable, washable Meyercord Decals are used as trademarks, instructions, charts, diagrams, dial corrections, designs. Learn how easily they are applied to production line speed on metal, glass, wood, china, plastics, leather, rubber, crinkle, curved, flat or flexible surfaces. Find out how and where Meyercord Decals are used for lasting adhesion despite vibration, acid, fumes, fading and wear.

Executives! **DECAL NAME PLATES ARE YOUR "BEST SELLER" ON DURABLE GOODS TOO!**

Meyercord Decals are [illegible] a day, year in, year out, [illegible] now. In fact, they are for the life of your product. Approximate a fast, easy, economical. Investigate Meyercord Decals today. Learn how they can SAVE and SELL . . . for you.

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World's Largest Decal Manufacturer
5323 W. LAKE ST. CHICAGO 44, ILL.

IEN-2304

Springs are Springs

maybe so for most people . . . but NOT for ACCURATE

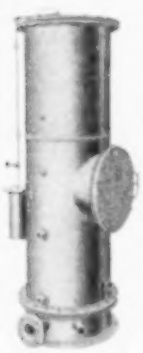
HOW often have you heard a spring user or even a manufacturer say "Springs are springs, what difference who makes them if the price is right?" Here at Accurate, we think it makes a big difference. Exact conformance to specification can be mighty important if it means easier, faster assembly and better performance for your product. "Know-how" and facilities for making springs the least costly way can mean many dollars for you. Write for details.

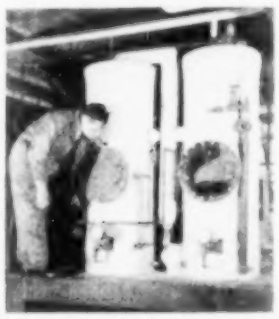
ACCURATE SPRING MFG. CO.
1801 W. LAKE ST. • CHICAGO 24, ILL.
Cost Conscious Quality Since 1930

Accurate Springs — Wire Forms & Stampings

IEN-2305

MAXIM EVAPORATORS





Maxim Double Effect Evaporator. Distiller unit undergoes test before being shipped

REDUCE SCALING — LESS DOWNTIME
ALL MONEL FOR LONG LIFE

SEND FOR THIS BULLETIN

THE MAXIM SILENCER COMPANY
75 HOMESTEAD AVENUE HARTFORD 1, CONN.

IEN-2306

A tremendous hit among paper converters and paper goods manufacturers, the new Rollster now high in the same the most popular small roll slitter-rewinder ever built by Camachine. Powered pneumatic slitter units, which eliminate the need for slitter separator, cutter adjustments, the labor-saving motor-driven rolling mill and the enclosed operator automatic stop for accurate control of the length of strip are only a few of the outstanding features of this great new Camachine. You are invited to request complete information.

CAMERON MACHINE COMPANY
61 POPLAR STREET · BROOKLYN 2, N. Y.

IEN-2307

CLEANING . . Floor sweeping machine, engine drive, two speeds, 24 in. brush

Source: G. H. TENNANT CO.
2572-76 N. 2nd St., Minneapolis 11, Minn.

The operator of this new Model 24 sweeping machine covers the rotary brush on the floor by depressing a pedal. He then shifts a two-speed transmission for low to 2 mph. or high to 8 mph. and depresses the accelerator pedal on the 4.8 hp. air-cooled gasoline engine. A governor-type clutch engages at predetermined engine speed to drive the machine and also to operate a vacuum blower.

Dirt and litter are swept into a compensating hopper that floats in sealing position with the floor. The vacuum blower draws dust into a floor bag mounted on the housing. The operator steers the machine along an aisle. He also can reverse the drive to back out of a tight space. Mounting is on four rubber-tired front wheels. Drive is to the 22-in. rubber-tired rear wheels. A tire-scraping brush can be added as an accessory.

The brush measures 24 in. to 31 diameter by 24 in. in width. The bristles measure 9½ in. (24½ cm.) by 1½ inches. It weighs 56½ pounds. The assembly includes service and parking brakes. Capacity of the dirt hopper is 6 cubic feet.

IEN-2308

DRIVE . . Overload safety cutout opens motor circuit at preset torque

Source: ANCHOR STEEL & CONVEYOR CO.
6904-8 Kingsley Ave., Dearborn, Mich.

Junior Model U is now in use in the company's overhead conveyor previously described in IEN-D6-42. It is splashproof and light and is suited particularly for conveyor drive in work or outside. Overhead conveyors also in sound in Anchor are continuously on the high-speed input shaft on the speed reducer driving a conveyor. Maximum output speed is 1,800 rpm. Drive ranges to ¾ to 1½ in.hp. Minimum nominal diameter of the flat-belt pulley V-belt sheave or chain sprocket is 7 inches.

The belt or chain connected input rotates the pulley or sprocket and also an integral cam/pawl/ratchet cam. This cam rides against a sleeve to drive the output side and tends to move this sleeve axially against the action of a retaining spring which is interchangeable to the housing to adjust ratings from 20 to 150 inch pounds.

Overload is sensitive now since the sleeve actually is able to slide a Micro switch mounted a predetermined distance away in sleeve in the illustration. The switch opens the motor circuit in this event and the drive stops. Removal of the cover and pressure the spring to reset. The sleeve to accept and increase the switch to close the motor circuit. Overload cutout operation the switch is 3½ inches.

All Makers of Chain And All Other Products See Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

IEN-2309

MAGNALITE

FOR RAPID INSPECTION

AN IDEAL VISUAL AID TO SPEED PRODUCTION INCREASE EFFICIENCY

You can step up production, increase efficiency, and reduce accidents when you use a Magnalite on precision jobs. It lets the workman really see his work because it magnifies and illuminates. The big 5" lens covers a large field of vision which is flooded with soft fluorescent light. There is no glare, no eyestrain, and Magnalite shields the face from flying chips or oiling or grinding work.

Step up strain and fatigue with Magnalite. Three standard models or special machine mounts made to order. Write today.

Priced From $29.75
F.O.B. Factory

HAAS CORPORATION
22 Main Street
MENDON, MICHIGAN

IEN-2310

IEN-2311

For over ten years, Easy Finishers have proven themselves on thousands of finishing and re-finishing jobs. We invited you to join with you to move and what brackets you needed. The Easy designed, easy designing, looking, giving the NEW Model of Easy finishers by finishing and re-finishing experience to give you more efficiency and more for maximum efficiency with higher finishing and

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Exclusive representatives — a few territories open.

DETROIT SURFACING MACHINE COMPANY
DETROIT, MICHIGAN

DETROIT SURFACING MACHINE CO.
7439 W. Davison • Detroit 4, Mich.
Name Title
Company
Street No.
City Zone State

IEN-2312

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describes
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PORTABLE CORDS
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Please send me the free bulletin describing Simplex-TIREX Portable Cords.

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▼ BREFITT—Identify by IEN-2313 if you write the maker ▼

WESTERN PATTERN with

SPREAD EAGLE

CENTER STRAPS

THE OPERATOR CAN REACH THE LOAD

THE TOP PACKAGES WON'T FALL OFF

No. 23 Western Eagle

WRITE DEPT. 52 FOR CATALOG AND PRICES

LANSING COMPANY

TRUCKS • TRAILERS • BARROWS • CASTERS • CARTS

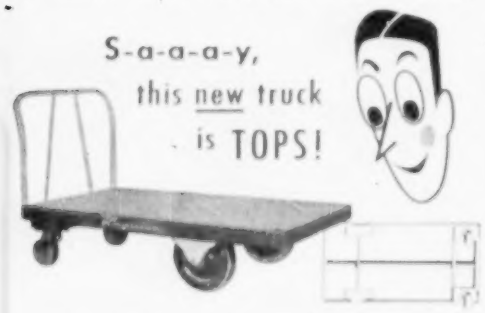
"Keep Your Products on Wheels"

MAIN OFFICE AND FACTORY
LANSING, MICHIGAN

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

▼ BREFITT—Identify by IEN-2314 if you write the maker ▼

S-a-a-a-y, this new truck is TOPS!



New, one piece, arc welded construction reinforced full length of both steel and wood decks. No bolt heads on steel deck! Rounded corner pockets seam welded. Handles at one or both ends. Level to tilt type models. Choice of wheels. Capacity 600 to 6,000 lbs. Baked enamel finish. Wood deck also available. Priced right. Write for literature.

The RAPIDS STANDARD COMPANY, Inc.
300 Ransom Building
Grand Rapids, Michigan

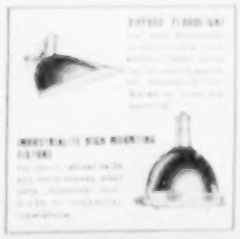
Rapistan MATERIAL flow EQUIPMENT

CONVEYORS • Power or Gravity • Portable or Stationary
CASTERS • FLOOR TRUCKS • HAND TRUCKS

▼ BREFITT—Identify by IEN-2315 if you write the maker ▼

MORE for every Lighting Dollar!

APPLETON LIGHTING EQUIPMENT



Appleton Lighting Equipment is scientifically designed to provide maximum lighting efficiency at minimum installation, service and operating expense.

Including hundreds of types and sizes, the Appleton line contains a fixture to fit virtually every lighting requirement, whether indoor or outdoor, hazardous or non-hazardous. STANDARD FOR BETTER LIGHTING.

Write for complete catalog.

APPLETON ELECTRIC CO.
9 Michigan Ave. Chicago 11

APPLETON

CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES
EXPLOSION PROOF FITTINGS • BODIES

▼ BREFITT—Identify by IEN-2316 if you write the maker ▼

DRYING . . Spray type equipment takes liquid out of process materials

Source: BOWEN ENGINEERING INC.
12 Station Road, North Branch, N. J.

Liquid feed is through one of the company's high-speed spray heads into a heated drying chamber in this new No. 2 spray drying machine. The spray head delivers a fine mist into the chamber for rapid evaporation of the liquid to leave the solids in the form of a dust. Flow from the chamber is through a centrifugal dust collector which separates solids and vaporized liquid so the latter can be disposed of and the former conveyed to a delivery funnel for discharge into suitable containers.

The assembly is equipped with the required recording instruments and controls for semi-automatic operation. It occupies a floor space measuring 10 by 15 feet. Overall height is 25 feet. The company has installed one of the units in its plant for test operation. You are invited to send sample materials to be put through it.

▼ BREFITT—Identify by IEN-2317 if you write the maker ▼

FLOORS . . Slip proofing material trowels or sprays over floor surface

Source: FLINTKOTE CO.
30 Rockefeller Plaza, Rm. 4111, New York 20, N. Y.

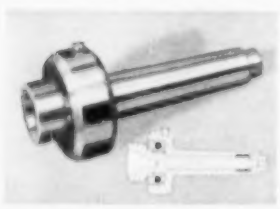
Prevents slipping on any surface

Five colors including red, green, slate and cement grays, and high-visibility yellow are now available in the company's Flintdek slip-proofing material. It is composed of a cohesive rubbery plastic with a mineral-type wear-resistant aggregate. It dries in 48 hours or a little longer for foot traffic. It forms a permanent bond and dries to a film that resists attack by water, gasoline, oil, alcohol, fats, greases. It is resistant also to weathering, temperature changes, chemical detergents, corrosive agents and mechanical wear.

▼ BREFITT—Identify by IEN-2318 if you write the maker ▼

LATHE CENTER . . Ball bearing design to support centerless work in tailstock

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.



A ball bearing at the front end of this new feature design of live tail stock center carries radial and thrust loading. A plain sleeve near the rear end eliminates wear in the revolving quill shank. Two sizes take work to ¾ and to 1 in. in diameter, have No. 2 and No. 3 Morse shanks. The revolving vertebal is heat treated to 55 on the Rockwell C scale.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREFITT—Identify by IEN-2319 if you write the maker ▼

No finger smear
No drawing smudge
with A. W. FABER'S quick-action

LOCKTITE black or colored

REFILL DRAWING PENCIL

Patented collet clutches lead in bull dog grip — prevents breaking or slipping back into holder.

Holds all the standard graded drawing or retouching leads. WINNER Techno-TONE 1930—degrees 7B to 9H—assures best results.

Also available in RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE, WHITE, and SILVER holding sturdy WINNER-Techno-TONE crayon leads for coloring, sketching and checking.

Unconditionally guaranteed

AW FABER-CASTELL
PENCIL COMPANY INC. NEWARK 4, N.J.

▼ BREFITT—Identify by IEN-2320 if you write the maker ▼

It's New! Better! Different!

Black Arrow HOLLOW AIR Spray Gun

Perfect Spray Patterns--Faster, Easier, Less Cost!

Production pointers on Black Arrow HOLLOW AIR Spray Gun, the most sensational development in the spray gun field. . . Thirty features of the patented HOLLOW AIR Atomizer Head which, in terms of spray or suits, gives you five big advantages:

1. The widest, softest, most uniformly distributed spray pattern you've ever seen.
2. Complete atomization of paint over the entire pattern.
3. No spitting at edges, no runs, sagging or orange peel.
4. More economical, fully flexible HOLLOW AIR usually requires less pressure.
5. Much softer spray because HOLLOW AIR blends paint and air perfectly.

See your jobber! Write for catalog.

The Secret of HOLLOW AIR *Atomization*

Two hollow cones of air perfectly delivered to converge to the center point set by the patented HOLLOW AIR Atomizer Head are responsible for HOLLOW AIR'S superior results. These cones of air atomize paint evenly, thoroughly, produce smooth, soft patterns, uniformly distributed. This enables superiors to produce perfect spray patterns easily, consistently.

BLACK

The Black Manufacturing Company
PARKTON 10, MARYLAND

Beyond Compare—HOLLOW AIR

▼ BREFITT—Identify by IEN-2321 if you write the maker ▼

10 TIMES HIGHER ABRASION RESISTANCE...
standard abrasive wheel test

4 TIMES HIGHER SNAG RESISTANCE...
standard needle test

MUCH HIGHER CHEMICAL RESISTANCE...
standard strip immersion tests
. . . than natural rubber or standard synthetics

SURETY SURESEAL
Synthetic Rubber Gloves

ADD UP TO SAFER HANDS, LONGER WEAR, LOWER HAND PROTECTION COSTS.

At The Greater New York Safety Show Booth 60

Ask for Surety's unique Glove Selector, the quick guide to the right glove material for your operations. Dept. L

THE SURETY RUBBER CO.

▼ BREFITT—Identify by IEN-2322 if you write the maker ▼

TIME & WORK SAVER

Does 3 or 4 Times the Work of Ordinary Cleaners

VAPOR-CLARKSON STEAM CLEANER

With Vapor Heating Corporation's MODEL 4042 [illegible] Model 4042 [illegible] ALL OTHER CONTROLS ARE FULLY AUTOMATIC.

MODEL [illegible]
ELIMINATES permanent piping and high boiler upkeep costs
MAXIMUM FUEL ECONOMY Uses domestic fuel oil, gasoline or kerosene
SERVICE is long and trouble free
EFFICIENT in every industrial application

Made by the manufacturers of the famous VAPOR CLARKSON STEAM GENERATORS used on virtually every Diesel passenger locomotive on this continent.

Sold only in New York • St. Paul • Chicago • Cleveland • St. Louis • Denver • Washington • Philadelphia • San Francisco • Portland, Oregon • Jacksonville, Florida • Houston, Texas • Seattle • Montreal.

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VAPOR HEATING CORPORATION
80 EAST JACKSON BLVD., CHICAGO 4, ILLINOIS

REFFITT—Identify by IEN-2323 if you write the maker

VISTEX RESISTS HYDRAULIC FLUIDS

(including tricresyl phosphate)

If you are using wool felt in an application involving hydraulic fluids, phone, wire, or write American Felt Company, Glenville, Conn.

If you are designing improved hydraulic equipment write for information about Vistex. American Felt Company's special material for packings, washers, heavy-duty bearing seals, gaskets, wipers and the like. Vistex is a high grade wool felt thoroughly impregnated with a special synthetic. It is strong, tough, self-lubricating, highly resistant to wear, and by proper choice of the impregnating substance can be made to resist the attack of any hydraulic fluid now used, including tricresyl phosphate. Here is the answer to long-lasting leak proofing. For illustrative samples and full technical information, write for Data Sheet No. 14, "Vistex."

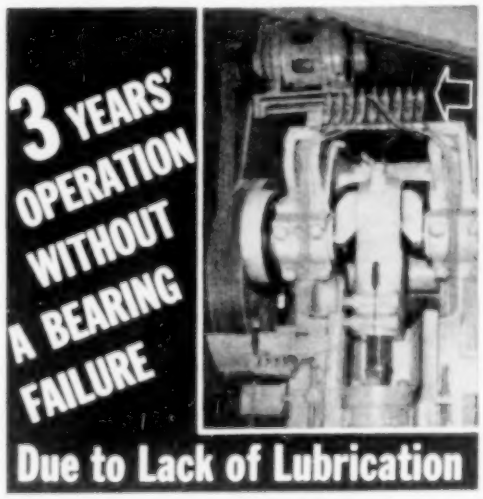
American Felt Company

GENERAL OFFICES: GLENVILLE, CONN.

18 GLENVILLE ROAD

Engineering and Research Laboratories: Glenville, Conn. PLANTS: Glenville, Conn.; Franklin, Mass.; Newburgh, N. Y.; Detroit, Mich.; Westerly, R. I. SALES OFFICES: New York, Boston, Chicago, Detroit, Cleveland, Rochester, Philadelphia, St. Louis, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle, Montreal.

REFFITT—Identify by IEN-2324 if you write the maker



SINCE INSTALLING *Lincoln*

Centralized Lubrication Systems

at Shwayder Bros., Inc., Detroit, Mich.

AFTER A TRIAL INSTALLATION on one Niagara Punch Press, Shwayder Bros. Inc., manufacturers of the Samsonite line of folding chairs, card tables and luggage, found Lincoln Centralized Lubrication so successful that they later installed the system on a battery of 17 additional presses.

Centro-Matic* Lubrication automatically delivers precisely measured shots of lubricant to all bearings on the machines. Because every shot reaches the right bearing, in the right quantity at the right time, "down-time" for repairs has been held to an absolute minimum. That means constant production, increased efficiency and consequently, lower unit cost for Shwayder Bros. Inc.

Lincoln Centralized Lubrication Systems, designed and engineered for Modern Mass Lubrication, provide the time-proven means by which industry can correct the prevalent inefficient lubrication practices growing out of the use of the haphazard and conglomerate selection of lubrication devices with which their production facilities are equipped. These Systems offer industry the means of standardizing lubrication equipment, and thereby, standardizing lubrication practices for maximum economy.

Lincoln's lubrication specialists will work with you, and recommend the time and money saving Centralized Lubrication System to meet your requirements. Write for the name of your nearby distributor.

APPLY THE RIGHT LUBRICANT IN THE RIGHT QUANTITY AT THE RIGHT TIME

*Trademark registered

Distributed Nationally Through Leading Industrial Distributors Located in All Principal Cities

SEE OUR CATALOG IN SWEET'S

• • • PIONEER BUILDERS LINCOLN LUBRICATING EQUIPMENT • • •

LINCOLN ENGINEERING CO., 5732 Natural Bridge Ave., St. Louis 20, Mo.

REFFITT—Identify by IEN-2326 if you write the maker

HONING . . Vertical machine, motor drive, hydraulic reciprocation

Source: MICROMATIC HONE CORP.
8100-40 Schoolcraft Ave., Detroit 4, Mich.

Model 718 is a new semi-production machine in the company's Hydrohone line. It has capacity for bores from 1 to 4 in. in diameter and to 10 in. in length. It is suited particularly to reconditioning engine cylinders and connecting-rod ends. It will handle from five to eight blocks per hour or from 60 to 90 rods in the same interval. The design is characterized by the single arbor which can be moved to inch the hone into the bore, start rotation, regulate reciprocating speed and withdraw the tool.

A non-rotating expanding sleeve on the hone controls tool diameter. Stock removal and size can be computed and controlled by a calibrated ratchet ring on the sleeve. A lateral index table on the machine base holds a cylinder block for reconditioning. An indexing bar positions each cylinder in turn. A riser block on the table takes a universal fixture to hold connecting rods while their ends are machined.

REFFITT—Identify by IEN-2327 if you write the maker

LUBRICATING . . Molybdenum base liquid acts to plate bearing surfaces

Source: LOCKREY CO.
21-04 122nd St., College Point, N. Y.

Sample lists $2 per pound

Liquid Moly is a new lubricant containing molybdenum that has been developed for bearing surfaces involving high surface speeds, heavy pressures and abnormal temperatures. The molybdenum "plates" the surfaces to form a film that will not squeeze out and that will prevent scuffing or wearing even when the oil content has been evaporated. The lubricant can be employed alone or added to others.

REFFITT—Identify by IEN-2328 if you write the maker

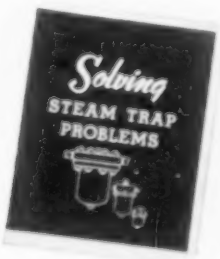
TRANSFORMER . . For electric furnace, suited for use in dusty locations

Source: NOTHELFER WINDING LABORATORIES
109-13 Albemarle Ave., Trenton 8, N. J.

New transformer is characterized by its solid construction and the use of Class-H insulation for 55-deg. temperature rise. The new design eliminates air ducts within the unit that can collect dust and eventually clog up. The design is available in 10 to 200-kva. ratings. 3-2 gas-fire furnace duty.

All Makes of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

REFFITT—Identify by IEN-2329 if you write the maker



- HOW TO SELECT THE RIGHT TRAP FOR ANY INSTALLATION
- IMPORTANCE OF TRAPPING UNIT HEATERS
- DIFFERENCE BETWEEN FLASH AND LIVE STEAM
- HOW TO SAVE 7 FITTINGS PER INSTALLATION

All your QUESTIONS answered about STEAM TRAPPING

You'll find the answer to these and many other troublesome steam trap problems in this 56-page book, "Solving Steam Trap Problems" simplifies trap selection with easy-to-follow charts and formulas. Discover the shortcuts on how to save money on steam trap installations. For a complimentary copy, attach this advertisement to your business letterhead, or write to . . .

THE V. D. ANDERSON COMPANY
1931 West 96th Street • Cleveland 2, Ohio

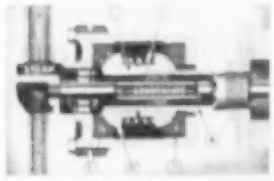
SUPER-SILVERTOP STEAM TRAPS

REFFITT—Identify by IEN-2330 if you write the maker

This packless stuffing box is packed with surprises!

Johnson Joints were designed as an alternate for stuffing boxes. Other than that there's little resemblance. In contrast they are completely packless, self-lubricating, self-adjusting, and self-aligning. Almost every disadvantage in packing use ceases to exist from these advantages: flooding, maintenance, clacking, operation, wherever steam or liquids must be adjusted to operating machine parts. Chances are good you can use an application for Johnson Joints.

WRITE FOR NEWLY PUBLISHED CATALOG



The JOHNSON CORPORATION 805 Wood Street Three Rivers, Mich.

Johnson *Rotary Pressure* **Joints**

REFFITT—Identify by IEN-2331 if you write the maker

ON THE LEVEL

you'll save time and money with

ACCURATE, POSITIVE MEANS FOR SETTING AND KEEPING MACHINES LEVEL IN A MERE MATTER OF MINUTES!

3 SIZES

Machine Tool Manufacturers strongly emphasize the need, not only to set machines level, but to keep 'em that way. Periodic re-leveling is essential for accurate work tolerances. How often, depends on the type of foundation. No method of machine setting is stable enough to maintain the accuracy of initial leveling. It is important to check after first month of operation, then check periodically and re-level whenever necessary.

When a machine is set on EMPCO JACKS, the whole operation is the work of but a moment. Simply apply a wrench to the "hex" screw head, turn right or left until your level indicator reads "zero."

EMPCO

THE ENTERPRISE MACHINE PARTS CORPORATION
3737 JEROME AVE. DETROIT 13, MICH.

REFFITT—Identify by IEN-2332 if you write the maker

LESS MAINTENANCE

MORE PRODUCTIVE CAPACITY

NO LOSS OF SOLUTION

Platecoil can be removed from side of tank to a matter of minutes without dumping. All connections above liquid level.

Write Today For New Free Bulletin No. P51

PLATECOIL
Products
GOLD-HOLD MFG. CO.
LANSING 8, MICHIGAN

FREE (Identify by IEN-2333 if you write the maker)

COBURN

SLIDING DOOR HARDWARE

Full line of hardware for straight-sliding, sliding folding, closed the-corner, and roundhouse doors.

Enclosed track • brackets • hangers • handles guide rolls • guides • stops • binders • chafe strips • bolts • hinges.

Folding partition and accordion door hardware. FREE CATALOG—For complete information send today for Catalog #200. Engineering help available without obligation.

COBURN PRODUCTS DEPARTMENT
WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORP.
Executive Office • 500 Fifth Avenue, New York 18, N. Y.
Sales Engineering • 56 Sterling Street, Clinton, Mass.

FREE (Identify by IEN-2334 if you write the maker)

THE FIRST NEW IDEA IN DRILL JIG BUSHINGS... SINCE HECTOR WAS A PUP!

MEYCO
Carbide Inserted Bushings
SAVE money 7 ways

For information and prices write for Meyco Bushing Catalog No. 14

W. F. MEYERS CO., INC., BEDFORD, INDIANA

FREE (Identify by IEN-2335 if you write the maker)

Hamilton *Shallow Drawer* Units keep *every* sheet smooth . . . clean . . . accessible!

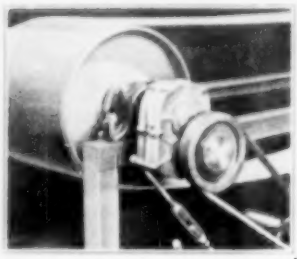
Hamilton Manufacturing Company, Two Rivers, Wisconsin
Please send literature on Hamilton Shallow Drawer Units
Name
Address
City
State

HAMILTON MANUFACTURING COMPANY
TWO RIVERS, WISCONSIN

FREE (Identify by IEN-2336 if you write the maker)

DRIVE . . Speed reducer mounts on driven shaft. ¾ to 25 hp.

Source: DODGE MFG. CORP.
500 S. William St., Mishawaka, Ind.



Torque Arm speed reducer has speed reduction that is made to fit any work, and with a 25 to 1 ratio, it mounts on a driven shaft and has support for a foot, or adapter. The sizes runs ¾ to 25 hp. at 1800 rpm. Each is a double reduction, as weights of helical steel gears mounted on shafts supported by ball bearings. Lubrication is by splash within the housing. The oil is fed to by separate seals.

Smallest unit applies direct or can be bolted for driven shafts ranging from ¾ to 1½ inches. The largest ranges from 2⅞ to 2⅞ inches. Overall axial length is 7⅞ to 13⅝ inches. Height is 9⅝ to 21 inches. Housing width is 7⅞ to 15 inches. Weight is 30 to 200 lbs. List price is $[illegible] to $[illegible].

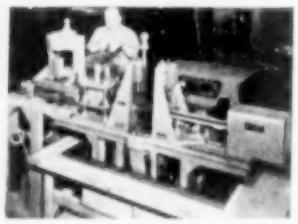
A back-stop can be added that mounts in the housing on the input shaft, thus relieving the gears of overhung load. It prevents reversal. It adds $40 to $90. Housing rotation is provided for a turn on the input shaft, thus providing various adjustments.

Bulletin A-170, 16 pages, presents in detail an opening as wide as the reducer, contains a 28 page complete description, specified size, cross-section, selection and 7½" to assist in selection of stock shapes for motor and input shaft for a [illegible] motor and power [illegible].

FREE (Identify by IEN-2337 if you write the maker)

HEAT TREATING . . Induction machine for selective hardening of shafts, pins

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.



Magazine feed and automatic adjustment are contained aboard the machine. Operation that generate this step-by-step induction hardening machine. Time for application of motor shafts and control parts from [illegible] to [illegible] seconds and [illegible] to [illegible] seconds. Work moves through the machine at speed of 300 pieces per hour. Frequency and power output of the radio-frequency generator.

Work pieces are placed in a magazine with automatically operated slide to deliver the pieces one at a time for end-to-end arrangement, so large can be conveyed through a feeder and through the induction hardening and quenching zone. Rods are at right angles and (2 stream) position produce work [illegible] accomplished by [illegible] movement of pieces [illegible] speed. Timed [illegible] operation assures the positioning of work piece to be hardened to avoid interference in the [illegible] setting up of [illegible] for [illegible] equipment [illegible] to [illegible] for [illegible] maintenance. The equipment is [illegible] [illegible] [illegible].

To Makers of These And All Other Products Are Listed In THOMAS' REGISTER' Descriptions Ratings See Page 30

FREE (Identify by IEN-2338 if you write the maker)

30 TONS CAN BE WEIGHED IN SUSPENSION BY YALE LOAD KING CRANE SCALE

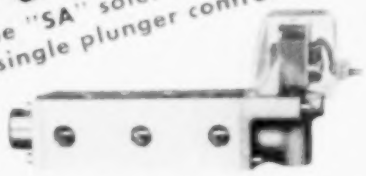
- Saves time, effort and money by eliminating a handling operation.
- Net weight of load is always indicated on the easy-to-read dial chart.
- Lowest swivel hook is "safety-lock" non-fouling type—opens slowly when scale is overloaded.
- "U-bolt" safety shop prevents damage to lever system in case of overload.
- Exclusive MAGNETROL mechanism assures long life of self-lubricated accuracy.

Write for literature

YALE THE YALE & TOWNE MANUFACTURING CO.
Roosevelt Boulevard • Philadelphia 15, Pa.
HAND LIFT AND POWER TRUCKS • HAND AND ELECTRIC HOISTS • INDUSTRIAL DIAL SCALES

FREE (Identify by IEN-2339 if you write the maker)

NEW type "SA" solenoid pilot operated single plunger control valves



- smaller, shorter stroke solenoids — lower amperage
- simpler electrical controls — high air economy . . .

● Small solenoids traveling through only a ⅛ stroke move a small pilot valve plunger to apply air to the operating piston to move the main valve plunger. All operating parts are rugged, yet weigh only a few ounces. Reduced amperage eliminates intermediate relays, simplifying control circuits. Positive high cycle operation, without destructive impact, reduces maintenance and minimizes trouble due to voltage variations. 2-, 3, 4 and 5-way designs ¼ . . . to 1" sizes, with bucking cylinder return.

Send for Data Sheet No. 1611. It gives full details.

C. B. HUNT & SON, Inc., 1951 E. Pershing St., Salem, Ohio

"The Higher the Pressure — The Tighter the Seal"

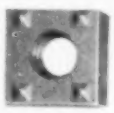
Quick-As-Wink
AIR AND HYDRAULIC CONTROL VALVES

FREE (Identify by IEN-2340 if you write the maker)

OHIO WELD NUTS
For Projection Welding

Range of Thread Sizes Shown for Each Part

Type WS, Square



#6-32 to 1/2-20

Type WR, Rectangular

#6-32 to 5/8-18

WS and WR Weld Nuts are made of low carbon steel.

Type WF, Flanged

#8-40 to 3/8-24

Type WW, Watertight

#8-32 to 1/2-20

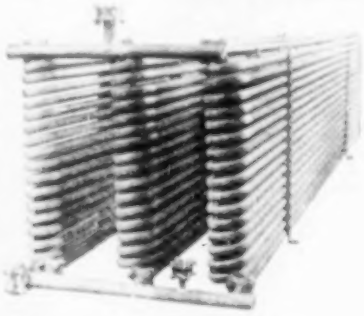
WF and WW Weld Nuts are made of low carbon steel and brass and up to 1/4-20 size in stainless steel.

For information and samples send to

THE OHIO NUT & BOLT COMPANY
604 FRONT ST. BEREA, OHIO

FREE (Identify by IEN-2341 if you write the maker)

PITTSBURGH *a air pressure tested* COILS



Pipe Coil — Boiler — Boiler Tubes
Electrically welded construction. Air Pressure Tested and submerged in water. Built to your specifications.
Send for Coil Data Book, and let us quote.

Welded Headers—Welded Ammonia Receivers—Accumulators

Pittsburgh Pipe Coil & Bending Company
48 BRIDGE STREET, ETNA, PITTSBURGH 25, PA.

▼ BREVITY—Identify by IEN - 2342 if you write the maker ▼

T-J CYLINDERS

Save Labor!

Speed Production!

Cut Costs!

T-J Air and Hydraulic Cylinders are built for 1001 tough jobs in industry . . . where pushing, pulling or lifting is needed . . . 100 lb. or 50,000 lb. Available in many standard sizes and styles . . . both cushioned and non-cushioned types. Backed by 32 years' experience . . . built for long life dependability. Write for latest catalogs. The Tomkins-Johnson Co., Jackson, Michigan.

TOMKINS-JOHNSON

▼ BREVITY—Identify by IEN - 2343 if you write the maker ▼

MARKING COSTS DROP PLUMB

They plunge straight down to the "lowest cost per mark" . . . when you use a marking machine or tool properly designed by Matthews, leaders in Quality Marking Products Since 1850.

This unit . . . for example, is the Matthews "204". It marks up to 800 round, flat or contoured parts per hour . . . legibly, uniformly and safely.

Write Matthews today for complete information and literature on "Product Marking". Tell them details of your product, and where and how you would like to mark it.

JAS. H. MATTHEWS & CO.
3948 FORBES ST., PITTSBURGH 13, PA.
NEW YORK BOSTON PHILADELPHIA CHICAGO
NEWARK SYRACUSE CLEVELAND CINCINNATI
DALLAS BIRMINGHAM LOS ANGELES

▼ BREVITY—Identify by IEN - 2345 if you write the maker ▼

SOLDERING . . Carbon electrode unit heats on work contact to melt solder

Source: WASSERLEIN MFG. CO
7402 3rd Ave., N., St. Petersburg 6, Fla.

Glo-Melt trade names new assembly of carbon electrode and holder, electrode and ground cables and a transformer for connection to a 110-volt ac. line. The transformer supplies low-voltage current to heat the electrode when the circuit is closed through it, the work and the ground cable. Heat from the electrode will melt the flux-core solder supplied.

Input rating is 450 watts. A heat selector provides 24 steps of adjustment. Weight is 25 pounds. Dimensions of the transformer are 7 by 7 by 7 inches.

▼ BREVITY—Identify by IEN - 2346 if you write the maker ▼

LIGHTING . . Reflector flood lamp, weather proof design, rates 300 watts

Source: SYLVANIA ELECTRIC PRODUCTS INC.
500 Fifth Ave., 50th Floor, New York 18, N. Y.

Operates on 110 to 125 volts

New 5-in. reflector unit employs heat-resistant glass that will absorb thermal shock due to contact with rain, snow, oil. Thus the lamp is suited for use out of doors as in yards, runways, storage spaces. Rated average life is 1,000 hours. Assembly is on a mogul screw base. The unit is inside frosted for fixed distribution of light from the filament.

▼ BREVITY—Identify by IEN - 2347 if you write the maker ▼

CYLINDER . . Pneumatic design, single acting to clamp, has spring return

Source: A. SCHRADER'S SON
468-72 Vanderbilt Ave., Brooklyn 17, N. Y.

Bore diameters of 1, 2½ and 3 in. and stroke lengths of 1 and 2 in. are available in this new line of Bantam air-clamping cylinders. The units are made of cast iron in two designs, one with side mounting flanges and the other with the flanges at the rear end. Air pressure acts to move the piston out. Spring pressure in the cylinder retracts the piston back to its normal position.

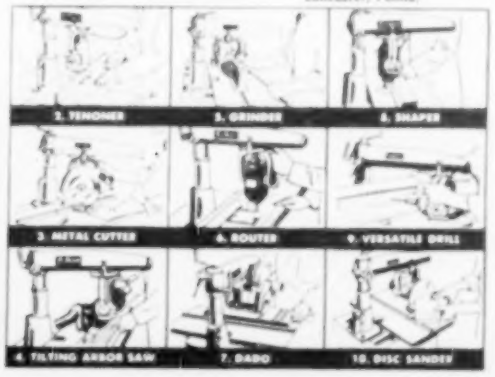
All Makers of These And All Other Products Are Listed In "THOMAS' REGISTER" . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2348 if you write the maker ▼

10 POWER MACHINES IN ONE!

That's what you have (and more) when you own a Sears-like, all-purpose DeWalt. It's fast, accurate, safe—built for long, tough service. Write for catalog.

DE WALT INC.
103 Fountain Avenue
Lancaster, Penna.



▼ BREVITY—Identify by IEN - 2349 if you write the maker ▼

NORTHERN HI-LIFT ELECTRIC HEAVY DUTY HOISTS

For heavy load capacities and rugged, heavy duty service NORTHERN HI-LIFT ELECTRIC HOISTS are designed and built to heavy duty crane type standards. They are especially suited for low headroom use—can be cab controlled if desired.

NORTHERN ENGINEERING WORKS, 7615 Atwater St., Detroit 7, Mich.

NORTHERN CRANES AND HOISTS

▼ BREVITY—Identify by IEN - 2350 if you write the maker ▼

NOW! A wiping tissue 100% grit-free

To make your cleaning operation efficient—economical. Fresh, Soft, Dependable Kimwipes* industrial wiping tissues. Polish finished surfaces without scratching. Blot up 10-15 times their weight in liquids. And so inexpensive, you can use a new tissue every time.

AUTOMATIC SERVE UP PACKAGES

Write for further information and name of the Kimwipes distributor nearest you.

Kimberly-Clark Corporation,
Neenah, Wisconsin

▼ BREVITY—Identify by IEN - 2351 if you write the maker ▼

A handful of hands turns out more jobs at LOWER COSTS

ROTARY ELECTRIC IMPACTOOL

- Runs Nuts
- Taps
- Reams
- Drills Masonry
- Wire Brushes
- Drives Screws
- Drives Studs
- Saws Holes
- Drills
- Bores Wood
- Extracts Broken Studs

A handful of hands can do the work that provide you years with Quick-acting Ingersoll-Rand Impactool—the electric of the electric hand tool.

YOU CANNOT STALL AND BURN OUT THE MOTOR . . . Should you stall the spindle completely the motor continues to run.

YOU GET NO KICK, NO TWIST . . . It's easy to use even on the toughest jobs.

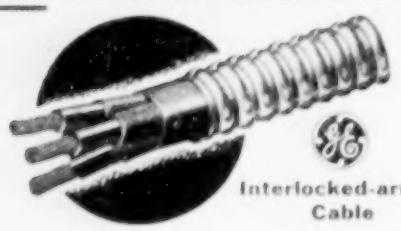
YOU CAN SAVE UP TO 90% OF NUT RUNNING TIME ALONE . . . The Impactool easily pays for itself in 30 days or less.

Seeing is Believing **Ingersoll-Rand**
11 Broadway, New York 4, N. Y.

Ask your distributor for a demonstration of this amazing, time-saving, labor-aiding Impactool

▼ PREFIX—Identify by IEN - 2352 if you write the maker. ▼

Cut layout time... Cut installation costs



Interlocked-armor Cable

Yes, here's the power cable that "understands" your installation problems. In one assembly General Electric interlocked-armor cable gives you cable with the protection of steel. Without laying out raceway runs, you just lay it up on beams, bend it around obstructions.

No time lost with G-E interlocked-armor cable. No raceways to put up. No need to pull cables through. No need for pull boxes on long runs. Just put it in place and its ready to go to work.

Try G-E interlocked-armor cable for all-round savings—for improved voltage regulation, too. For additional information, write to Section W55-342, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.

GENERAL ELECTRIC

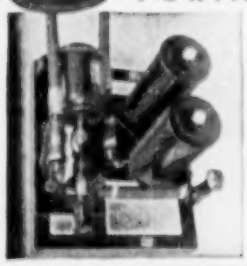
▼ PREFIX—Identify by IEN - 2353 if you write the maker. ▼

INDUSTRIAL FILTERS

for Hydraulic and Lubricating Oils, Paint and Lacquer

General Full-Flow filters have an exceptionally high rate of flow. Removes foreign particles down to 5 microns. Also valuable in removing moisture. Wool cartridge is cleanable.

PORTABLE MODEL



Includes pump for forcing paints, lacquers, or other liquids through the filters. Can be installed anywhere. Uses same Full-Flow filters. When installed on paint or lacquer tanks the result is a much smoother, more beautiful finish.

Write — FOR LITERATURE and data on these heavy-duty industrial units.

GENERAL FILTERS, Inc.
12890 WESTWOOD • DETROIT 23, MICH.

▼ PREFIX—Identify by IEN - 2354 if you write the maker. ▼

No More Frozen or Galled STUDS

(even at 1800 F.!) Try this Amazing Money Saver.

FREE Test Sample of the NEW FEL-PRO C-5 "HI-TEMP" THREAD COMPOUND

Eliminates Pitting of Stainless and Alloy Steels at all Temperatures!

CUT costly stud breakage, heater dismantling time, pitting of metal surfaces!

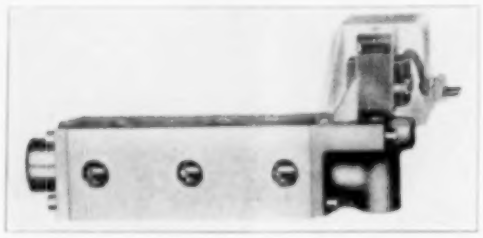
We'd like to send you a free sample of the new Fel-Pro C-5 "Hi-Temp" Thread Compound so try on your toughest thread compound problems, including alloy and stainless steels. Then you can see the amazing money-saving results being obtained by the nation's largest refineries, utilities and process industries. Fel-Pro's exclusive Colloidal Copper formula keeps metal parts separated, regardless of temperatures. Its neutral action solves the alloy and stainless steel pitting problems. One utility company reports that heater dismantling time has been cut from two days to four hours, by the use of Fel-Pro C-5 "Hi-Temp". Why not see what "Hi-Temp" can do for you — get your free sample and complete data sheet—write today.

FELT PRODUCTS MFG. CO.
1521 Carroll Ave., Chicago 7, Illinois

▼ PREFIX—Identify by IEN - 2355 if you write the maker. ▼

VALVE . . Two to 5-way assemblies pressure operated, for air or liquid

Source: C. B. HUNT & SON INC.
1919 E. State St., Salem, Ohio



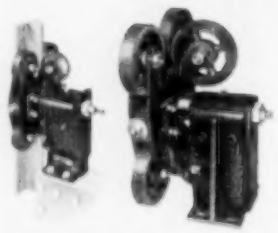
A small solenoid operates a pilot valve having a ⅛-in. stroke at one or both ends of this new Type-SA Quick-action Wink pneumatic or hydraulic operating valve. When used at one end only the opposite end assures a constant-pressure cylinder and piston assembly for return of the main piston when the solenoid is de-energized. The valve is available with ⅜ to 1-in. ports in 2, 3, 4 and 5-way assembly to handle air to 200 lb., oil or water to 250 pounds. Sizes with 1¼-in. or larger ports can be specified to 300 pounds.

The pilot valve and its solenoid have negligible mass in their moving parts and so are suited for high-speed cycling. Also they are free from impact action. The pilot assembly is available for operating air supply through internal passages from the main controlled supply. The valve also is available for operating supply from an outside source. This holds when the fluid handled by the main valve is less than 40 pounds. It applies also for control of oil or water at speeds above 30 cycles per minute. The solenoid is available for standard electrical characteristics from 110 to 500 volt ac., 110 to 250 volt dc. to meet requirements.

▼ PREFIX—Identify by IEN - 2356 if you write the maker. ▼

ELEVATOR . . Roller guide shoes eliminate need for rail lubrication

Source: ELEVATOR SAFETY CORP.
165 Broadway, Room 1326, New York 6, N. Y.



Dry rails can be employed in an elevator shaftway when the elevator and its counterweight are mounted on these new patented Elsco safety roller guides. Two assemblies are provided, one for use at the top and bottom of the elevator and one for similar application on the counterweight. The wheels in each assembly are fitted with tires [illegible] and are mounted on ball bearings. There is no [illegible] in keeping the shaftway clean when the rails are dry.

Compensating design in the wheel mountings smooths the car movement. The rubber-tired wheels operate without noise and essentially no friction. The design has been approved by the Board of Standards and Appeals in New York City for passenger and freight elevators to 1,000 fpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ PREFIX—Identify by IEN - 2357 if you write the maker. ▼

The outstanding value and hand safety specification throughout industry. Heavy gauge, steam-cured, high-performance and extra-long durability with extra heavy reinforcement at points of wear. Long and close gauntlets in heavy and lighter gauge styles with all-rubber uppers, surface and available in genuine neoprene laces.

No. 1621 FIRM-GRIP
No. 1615 SMOOTH
LENGTH 14 inches
GAUGE .024, .015
COLOR Brown
SIZES 10-11-12

*Request sample and quotations.

SEIBERLING LATEX PRODUCTS COMPANY
AKRON 9, OHIO

▼ PREFIX—Identify by IEN - 2358 if you write the maker. ▼

Get these facts on the one fluid strainer

that will last as long as the equipment it's installed on

For longest service, no replacement, put Cuno AUTO-KLEAN — the only disc-type self-cleaning strainer—on your fluid lines. It's all metal, non-collapsible, *permanent*.

Guaranteed to remove all particles larger than specified.* Continuously-cleanable — no need to stop flow. Single unit handles full flow in same space as usual partial-flow type.

Widely used on lubricating, hydraulic, and fuel oils, water, and all industrial fluids.

*Available specings from [illegible] to [illegible]

No Fluid Is Better than Its Filtration

CUNO

For valuable information on fluid straining, address Cuno Engineering Corp., 695 South Vine Street, Meriden, Connecticut.

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

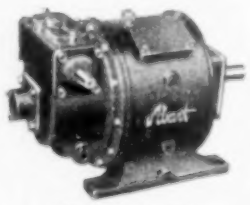
▼ PREFIX—Identify by IEN - 2359 if you write the maker. ▼

Where you save...

is in having complete information on the Speed Reducers you need, before ordering. Feel free to consult Abart on any reducer problem. Be sure to ask for catalog on

Abart SPEED REDUCERS

Illustrations, diagrams and full engineering data put all details right at hand, save time, and insure satisfaction.



Over 75 types and sizes spur, worm and combinations for duties from 1/50 to 417 h.p. Input and output horizontal either side or vertical above and below. Fit any conditions of installation. Compact. Oil-tight. Write, wire or phone.

Abart Type "B" combination worm and spur gear reducer. Ratios 7½ to 1 up to 2000 to 1. For heavy torque loads.

Abart GEAR & MACHINE CO.
4823 W. 16th St. • Chicago 50, Ill.

▼ PREFIX—Identify by IEN - 2360 if you write the maker. ▼

COLOR FILL—

STAMPED, DIE CAST, EMBOSSED PARTS

The NEW — FAST WAY

The ACROPRINTER REG. U.S. PAT. OFF.

PICKS UP COLOR ENAMELS OR COLOR INKS AND WITH A SPECIAL ACROPRENE DIE, APPLIES THE FILLING INTO DEPRESSED SURFACES.

MADE BY THE MAKERS OF MARKING AND NUMBERING MACHINES, NAME PLATE STAMPING MACHINES, ETC.

ACROMARK
ELIZABETH, N. J.
7 MORRELL STREET
"THE ORIGINAL MARKING SPECIALISTS"

FREE!!!—Identify by IEN-2361 if you write the maker

WHEN you bend pipe on repair jobs, radiant heat or original installations, you eliminate up to 80% of costly fittings. Work goes far faster . . . and at a far lower cost. Any green hand can do it — that's why hundreds are in use.

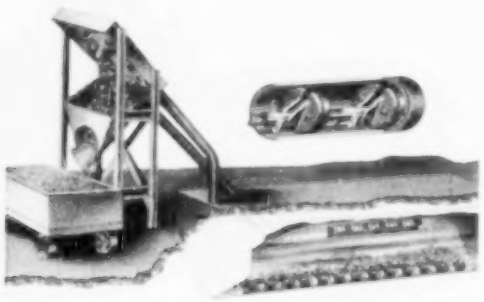
Tal tube benders handle all hard drawn tubing without annealing. Also K and L tubing — in diameters from ⅜" to 1". Perfect, flawless bends guaranteed.

Write for informative data bulletins. Dept. 2

Exclusive Producers of Portable Pipe and Tube Bending Equipment

Tal Bender, Inc. Milwaukee 2, Wisconsin

FREE!!!—Identify by IEN-2362 if you write the maker



Houdaille*

CONVEYOR

WILL WORK FOR YOU

Originally designed to handle sludge and waste matter in the metal working industry, the Houdaille Conveyor is being used to handle a wide range of applications in the materials handling field.

This automatic loading and continuous materials transport is adaptable to transporting any solid or fibrous material which will settle to the bottom of a tank or hopper.

Here are a few of the suggested uses for the Houdaille Conveyor:

METAL WORKING INDUSTRY
- Cast Iron Dust and Chips
- Aluminum Dust and Chips
- Abrasive Sludge
- Sludge resulting from
  - Quenching, metal cleaning, steel rolling, tube rolling, copper rolling, aluminum rolling, wire drawing

MATERIAL FROM DUST COLLECTORS

PLASTIC POWDERS

BREWERY PRODUCTS
- Grain, spent or new

FOOD PROCESSING

PACKING PLANTS
- Cracklings
- Other By-Products

SOAP MANUFACTURING
- Powders, Chips, etc.

MANY OTHERS

If you have a materials transporting problem, write to 8222 Wickliffe Avenue, Dallas 35, Texas, Dept. 10

HONAN-CRANE CORPORATION

a subsidiary of

HOUDAILLE-HERSHEY CORP.

The Houdaille* CONVEYOR

FREE!!!—Identify by IEN-2364 if you write the maker

SHEARING . . Motor driven machine reciprocates cutter bit at high speed

Source: AMERICAN PULLMAX CO.
2631 N. Western Ave., Chicago 47, Ill.

New attachments to cause a quick setup for square and circle cutting have been designed for Size P-5 in the company's line of semi-shearing machines, previously described IEN-1909-49. Bending a lever permits moving the attachment to any desired position. Lowering the lever locks the setting.

In each machine the lower shear blade is stationary and the upper one is reciprocated through a short stroke at high speed. Setting is made so the upper blade penetrates only far enough into the work to cause the work to shear. The resulting cut is even and free from burred edges.

Throat depth over the line ranges from 15 to 48 inches. Work range in steel is from 17 gage to ⅜ inch. Size P-5 has edge-cutting capacity to ⅜ in. in mild steel. It will cut circles from a little over 2 in. to 40 in. in diameter. Throat dimension is 42 inches. The machine will fold, bend, slot as well as shear.

FREE!!!—Identify by IEN-2365 if you write the maker

FUSE . . Non-renewable design, powder filled, 3 to 600 amp. ratings

Source: WARE FUSE CORP.
4502 W. Lake St., Chicago 24, Ill.

Powder fill contains arc

New series of fuses in knife-blade and ferrule types, both a non-renewable powder-filled design, have been added to the company's line line. The units are available for operation on one and two-pole circuits with ratings from 3 to 600 amperes.

FREE!!!—Identify by IEN-2366 if you write the maker

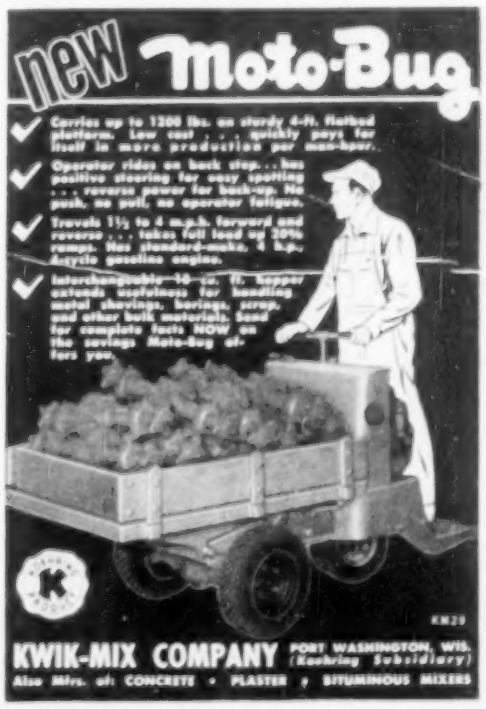
WELDING . . Cable saddle provides support back of welding gun

Source: OSBORN MFG. CO.
304 Argonne Road, Warsaw, Ind.

Aluminum is employed in construction of this new cable saddle to provide support from overhead for the cables leading to a portable resistance welding gun. The saddle supports the cables and cooling water lines in a manner that prevents kinking. It takes a cable bundle measuring 2⅝ in. in diameter. Clearance through the cleats is 3⅛ inches.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FREE!!!—Identify by IEN-2367 if you write the maker



KWIK-MIX COMPANY PORT WASHINGTON, WIS. (Kwikmix Subsidiary)

Also Mfrs. of: CONCRETE • PLASTER • BITUMINOUS MIXERS

FREE!!!—Identify by IEN-2368 if you write the maker

FREE!!!—Identify by IEN-2369 if you write the maker

The Men with the Holes in their Heads!

Big holes! Little holes! Deep holes! How can we bore the better for less? We may be your problem successfully. But boring holes at lower cost is the full time problem for Madison engineers. This specialization can save you money just as it is doing every day for leading manufacturers. Why not take advantage of the two big things — Madison experience and Madison tools — that can cut cost on your production boring jobs. You're welcome to put another hole in one of our engineers' heads. Ask them to consider your problem and come up with a cost lowering idea. No obligation, of course. *Write for the informative filled Madison Catalog.*

BETTER BORING TOOLS . . . MORE BORING EXPERIENCE

MADISON MANUFACTURING COMPANY

Dept. EN — Muskegon, Michigan

FREE!!!—Identify by IEN-2370 if you write the maker

GET THESE FEATURES IN ALL YOUR FUTURE CYLINDERS

Hydraulic High Pressure
- Centrifugally Cast Cylinder Bodies
- Cold Steel or Semi-Steel End Caps
- Cast Iron Piston with Automatic Tyre Rings
- Lapped Finish "O" Rings in each end cap
- Adjustable Port Location
- Fixed Cushions Standard Construction — Adjustable Cushions Optional

Air and Low Pressure Hydraulic
- Compact — No Tie Rods
- Extra heavy walls of selected tubing
- Metal to metal assembly prevents piston caps
- Automatic rod packing squeezes on take-up. Seals under pressure.
- Aluminum alloy piston with steel rod insert
- Extra long rod guide

HYDRO-LINE CYLINDERS CONFORM TO J.I.C. STANDARDS

➡ ***FREE Additional Data***

covering additional construction and performance features are included in this catalog. Write for your copy today. Ask for bulletin 1150

Hydro-Line

HYDRO-LINE MFG. CO.
711 19th STREET
ROCKFORD, ILLINOIS

▼ BREVITY—Identify by IEN - 2371 if you write the maker ▼

PRIMING and NON-PRIMING CENTRIFUGAL ACID PUMPS

Capacities 10 G.P.M. and up. Materials available to resist corrosion by nearly all acids and caustics. Handle gas or vapor with liquid when necessary. Shaft seals in superior, simple, dependable. Write for details stating your problem and of liquid, temperatures, capacity, pressure and suction lift.

THE LABOUR COMPANY, Inc.
1873 Sterling Avenue Elkhart, Indiana, U. S. A.

▼ BREVITY—Identify by IEN - 2372 if you write the maker ▼

SYNCHRON
TRADE MARK
Synchronous

TIMING MOTORS
SELF STARTING SELF LUBRICATING

This patented timing motor operates with equal efficiency in any position. It operates quietly — all moving parts are bathed in a sealed-in lifetime supply of oil, and double bearings on rotor, reduction, and output shafts assure long life and trouble free service. Size —2 3/4 in. x 1 5/16 in., with power to pull 8 oz. at 1 RPM. Standard speeds, from 1 to 300 RPM, other speeds available. Write for complete engineering data.

HANSEN MANUFACTURING CO., INC.
Established 1907 - a Pioneer in Synchronous Motors
PRINCETON 2, INDIANA

▼ BREVITY—Identify by IEN - 2373 if you write the maker ▼

SEPARATE DIE SETS...

This Fast, Simple Way

Here's the equipment you need for building or replacing die sets. No measuring or fitting punches. It eliminates difficulties of supporting die sets. It keeps skilled machine hours, saves their valuable time and increased productivity.

Acro Die Set Pallets are more punch holder than die sets by a sturdy upward pull — punch holder travels upward leaving little under your immovable.

Die sheets and unfinished plates now using Acro Die Set Pallets have wired to hold as long as your sheets. This is especially true on large dies where the continual separation of die sets for stripping and the similar problem arises down the tool maker.

Attention Dealers: Some territories available.

WRITE FOR FREE BULLETIN

Write for complete information on these time saving die set pallets. Ask for Bulletin IEN-50

ACRO METAL STAMPING COMPANY
332 S. RESERVOIR AVE. • MILWAUKEE 12, WIS.

▼ BREVITY—Identify by IEN - 2374 if you write the maker ▼

LADDERS . . Equalizer attachment for stable footing on uneven ground

Source: ANDERSON PRODUCTS CO.
P. O. Box 691-A, Tulare, Calif.

Hydra-Lizer trade names new hydraulic equalizer attachment for ladders on which patent has been applied for. The unit employs two hydraulic-piston legs and a cross connection fitted with a valve. When the valve is open the legs are free to extend and retract so the ball and socket feet will rest evenly on the ground or a floor or roof whether it is level or not. Closing valve locks the feet in the stable position they have taken.

The attachment applies on any standard ladder. Load capacity is 500 pounds. The feet are a combination of non-skid pads and toothed plates. The latter for ice and slippery ground are presented by turning the plates on edge.

▼ BREVITY—Identify by IEN - 2375 if you write the maker ▼

FLOORS . . Resurfacing material packaged to mix and apply on the job

Source: PIONEER CHEMICAL & MFG. CO.
1828 Columbus Road, Cleveland 13, Ohio

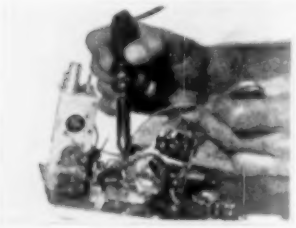
Detail information is in Form 222

New packaging for the company's asphalt mastic floor resurfacing material assembles correct amounts of asphalt paste, setting powder and aggregate in a shipping container to make up a unit of the material by mixing with water. Included with each shipment is a supply of asphalt bond material to prepare the floor surface that is to receive the material. The mixture is troweled in place and is ready for traffic in 24 to 36 hours. Application over a firm base in thickness from ¼ to ½ in. carries loads to 10 ton within 36 hours.

▼ BREVITY—Identify by IEN - 2376 if you write the maker ▼

SOLDERING . . Small electric iron with 3/16 in. tip for delicate work

Source: MITCHELL INDUSTRIES INC.
1112 Camp Wolters Bldg., Mineral Wells, Texas



Removable handle, new design of radiating fins between handle and tip and a new list price of $4 are improvements in the Vasco Pettite soldering iron, previously described IEN-2003-37. The iron rates 25 watts. It measures 7 in. overall and is fitted with a 6-ft. length of flexible extension cord and plug. The iron is particularly suited to solder small connections.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2377 if you write the maker ▼

FREE SANITARY SURVEY!

Let your Dolge Service Man make a complete sanitary survey of your premises with a view to helping achieve more effective, efficient, economical maintenance.

Send for Booklet No. 12

The C. B. DOLGE CO.
WESTPORT, CONNECTICUT

▼ BREVITY—Identify by IEN - 2378 if you write the maker ▼

GREENLEE HYDRAULIC BENDER

FOR QUICK, ACCURATE BENDING OF PIPE UP TO 4½", CONDUIT, TUBING

Saves hours upon hours of conduit or piping installation time. Users report up to 75% labor savings with the Greenlee Bender . . . and cost of many manufactured bends, fittings, and work of installing them is eliminated. One man operates easily and quickly to produce smooth, accurate bends in rigid pipe up to 4½", rigid and non-wall conduit, tubing and bus bars.

Write for facts today. Greenlee Tool Co., 1963 Harlem Ave., Rockford, Illinois

▼ BREVITY—Identify by IEN - 2379 if you write the maker ▼

ARCCO *NEVER-DRY* PEN

Writes for Months

REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clear and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No dripping or dripping. Stainless steel construction—no corrosion. When ordering specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
2113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

▼ BREVITY—Identify by IEN - 2380 if you write the maker ▼

Doing the unusual

HAS MADE ROSS *the first* runs in INDUSTRIAL AIR PROCESSING

Through the scientific use of controlled air, ROSS engineers have provided speedier processing and more uniformly finished products in practically all industries. In the field of industrial drying, baking, curing, treating, conditioning, no other organization has had more experience or introduced as many new developments as ROSS.

Tell us the type of product you make. Ask for literature describing ROSS apparatus for your industry.

J. O. ROSS ENGINEERING CORPORATION
350 MADISON AVENUE NEW YORK 17, N. Y.
CHICAGO • DETROIT • BOSTON • LOS ANGELES • MONTREAL • LONDON

▼ BREEZE—Identify by IEN-2381 if you write the maker ▼

32 Pages of Helpful Information on Dust Recovery Systems

If you are now using dust or fly ash recovery equipment in your plant, or are planning installation of such equipment now or later—you will find this new Multiclone booklet full of helpful information, illustrations and diagrams, outline basic principles of dust recovery, and how to utilize them for maximum efficiency. . . . How to simplify your installations. . . . How to conserve valuable plant space. . . . How to get high recovery over a wide range of particle sizes, etc. A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate.

WESTERN Precipitation CORPORATION

▼ BREEZE—Identify by IEN-2382 if you write the maker ▼

EVERY SINGLE PRODUCT

Made by BOWSER

Is Designed

TO HELP SOME PLANT MANAGER CUT PRODUCTION COSTS!

. . . and MISTER:

THAT'S IMPORTANT

NOW!

This data may have the answers to some of YOUR PROBLEMS

It's Free to

PLANT EXECUTIVES

Bowser offers you proved ways to CUT COSTS by reducing labor, speeding production, preventing inventory losses and minimizing maintenance. Some of them may be just what your plant needs.

. . .

Write today for your copies of the above data. It will explain how and where Bowser equipment may fit into your picture.

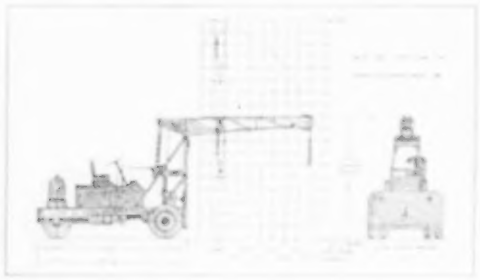
BOWSER, INC.
1338 Creighton Ave., Fort Wayne 2, Ind.

LIQUID CONTROL SPECIALISTS SINCE 1885

▼ BREEZE—Identify by IEN-2384 if you write the maker ▼

CRANE . . Wheel mounted design rates 5 ton, 2½ ft. ahead of bumper

Source: SILENT HOIST & CRANE CO.
642 63rd St., Brooklyn 20, N. Y.



Karri-Go designation new utility crane that sets up with a single line for loads to 2 ton and with a two-part line for loads to 5 ton. Single-line hoisting speed is 45 fpm. Four travel speeds are to 14 mph in forward. There is one reverse. Drive is by a 50 hp. 4-cylinder gasoline engine. Power is employed to elevate the boom as well as to lift the load. There are six locking positions for varying reach between 2½ and 10 feet. Lift height at 2½ ft. is 19 ft. with a two-part line.

Drive is to the front load-carrying wheels. Steering is connected to the rear. Control reverse at a single lever for gear shifting, to select hoist, power-reverse lower, and hold in neutral. Braking action is automatic. Bulletin 75, 6 pages, provides illustrated details and specifications.

▼ BREEZE—Identify by IEN-2385 if you write the maker ▼

LAPPING . . Revolving plate machine for small plain and cylindrical work

Source: TAFT-PEIRCE MFG. CO.
32 Mechanic Ave., Woonsocket, R. I.

Final finish is imparted to flat and cylindrical surfaces of small work pieces by application with a suitable compound on the revolving lapping plate in this new machine. The plate is turned at 140 rpm by a ¾ hp. motor. The work is held directly by hand to finish a flat surface. It is secured to a fixture between centers to permit rotation for cylindrical work. In the latter case the fixture is held by hand. Plate diameter is 24 inches. Machine height is 37½ inches. A drip pan beneath the plate traps overflow of lapping compound.

List price is $975 for the machine with a plain plate suited particularly for cylindrical work. It is $987.50 when fitted with a grooved plate particularly for flat work surfaces. The plates are interchangeable and extra ones are available for $150 and for $175 in plain and grooved designs. A resurfacing block adds $45. Cylindrical work fixtures for work to 10 in. in length and to 4 in. in diameter list at $53 to $45. The lapping compound which the company recommends lists at $1.50 for a 5-lb. can.

Bulletin. "2136, Lapping Machine," 4 pages, presents pictures of the machine and typical work applications. It includes description, specifications, data on accessories.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREEZE—Identify by IEN-2386 if you write the maker ▼

PRECISION *Control*

by POWERS

IMPROVES PRODUCTION • LOWERS COSTS

End losses caused by over-and under-heating of processes or operations requiring precise control. Install Powers air-operated temperature regulators. These automatic control helps to improve quality of products and speed up production.

WRITE FOR BULLETIN 370

THE POWERS REGULATOR COMPANY
2737 Greenview Ave. Chicago 14, Ill.
Offices in 50 Cities—59 years of Temperature Control

▼ BREEZE—Identify by IEN-2387 if you write the maker ▼

Over Half of America's Top Companies Use "Speed Sweep"

THE BRUSH WITH THE STEEL BACK

MILWAUKEE DUSTLESS BRUSH CO.
MILWAUKEE 3, WISCONSIN

▼ BREEZE—Identify by IEN-2388 if you write the maker ▼

. . . and you can say that of any vat built with American Phillips Screws

CLEANER PRODUCTION. No scarred parts, no slashed hands, no floors littered by fumbled screws. For when an American Phillips Screw is put on the point of its 4-winged driver . . . then they become one straightline unit until the recessed screwhead is turned up flush. Saves rejects, saves screws, *saves time up to 50%.*

CLEANER SALES. Buyers of top-quality products know the buy-sign of the universal Phillips crossed recess on everything from their automobiles to their golf clubs. *So cash in on this consumer acceptance!*

AMERICAN SCREW COMPANY PROVIDENCE 1, R. I.
Chicago, 6 189 W. Illinois St. Detroit 2 503 Stephenson Bldg.

AMERICAN PHILLIPS *Screws*

▼ BREEZE—Identify by IEN-2389 if you write the maker ▼

ACCURACY TO .0001" IN PRODUCTION SET-UPS

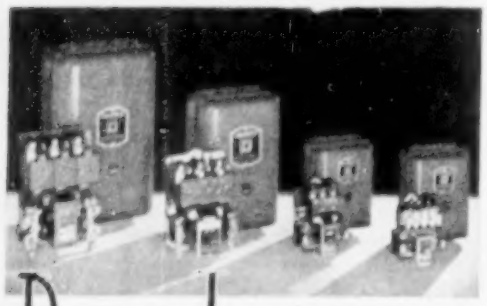
FOR AS LITTLE AS $117.50

Write FOR CIRCULAR

PRECISE PRODUCTS CO., 1826 Clark St., Racine, Wis.

PRECISE SUPER 40

BREEZIT—Identify by IEN-2390 if you write the maker



DESIGN LEADERSHIP in SQUARE D MOTOR STARTERS

• Generous wiring space . . . simple contact change . . . quick coil removal . . . additional electrical interlocks . . . long life . . . NEMA standardization . . . simplified maintenance.

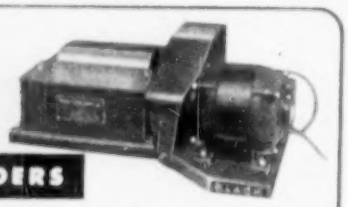
Write for Bulletin 8536. Square D Company, 4041 N. Richards Street, Milwaukee 12, Wis.

SQUARE D COMPANY

DETROIT MILWAUKEE LOS ANGELES

BREEZIT—Identify by IEN-2391 if you write the maker

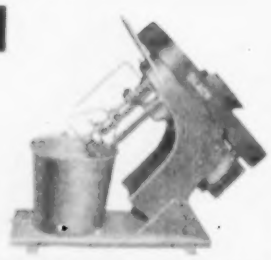
PORTABLE...MOTOR DRIVEN



SPREADERS

Made for all kinds of adhesives . . . hot or cold. Applies an even, economical coat . . . 115 volt AC motor. Floor stand models available if desired. Write for Bulletin 10-A.

MIXERS



THE BLACK BROTHERS CO., INC.
MENDOTA, ILLINOIS, U. S. A.

BREEZIT—Identify by IEN-2392 if you write the maker

Try the MODERN

SAFETY DRILL TABLE

Under Our FREE TRIAL OFFER

For Faster, SAFER Work in Your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in six sizes from 5" to 25" dia. We guarantee each Safety Drill Table will save its cost on labor alone in six months, to say nothing of great down time when vital maintenance is delayed even a few minutes.

WRITE FOR FREE FOLDER

Shows many typical set-ups. Still use on radial drills. Complete specifications on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

BREEZIT—Identify by IEN-2393 if you write the maker

GRINDING . . Pneumatic head for holes to 4 in., speed to 50,000 rpm.

Source: ONSRUD MACHINE WORKS INC.
3909 Palmer St., Chicago 47, Ill.

New Type DI-8 hole grinder has a taper shank to mount in a spindle such as a lip lathe, milling machine, drilling machine, or other grinding machine. Its body is machined in cross ways for setting the center wire for holes to 2⅝ in. in diameter. An accessory adapter plate provides for added adjustment to a maximum of 4 in. in work-hole diameter. The hand lever is ⅜ in. diameter where it fits in its collet chuck.

BREEZIT—Identify by IEN-2394 if you write the maker

WRENCH . . Double end socket design with pivoted sockets, 3/8 to 3/4 inch

Source: SNAP-ON TOOLS CORP.
8030 28th Ave., Kenosha, Wis.

Flex Head is a new design of socket wrench in which heads are pivoted at the 180 ends of the body so they are movable through 180-deg. arcs. They can be set in line to spin a nut on its threads and then can be turned to any angle to apply leverage for final tightening. The arrangement also permits operation in confined locations.

Three sizes have heads measuring ⅜ and 7/16 in., ½ and 9/16 in., ⅝ and ¾ inch. Overall length is 5⅝ to 8⅝ inches. Finish is in chrome plating over the steel.

BREEZIT—Identify by IEN-2395 if you write the maker

SIGNALING . . Alarm bell, fuse release, spring wound operation

Source: FYR-FYTER CO.
321 Crane St., Dayton 1, Ohio

Fyr-Cry is a new assembly of 8-in. steel bell and a rectangular 8½-in. plastic housing in which is a spring-wound clock mechanism and fuse. The fuse releases at 135 deg. F. to permit the mechanism to sound an alarm which will continue for 5 min. If it is not stopped sooner. Installation is on a wall or ceiling in an area subject to fire or dangerous overheating. The unit carries Underwriters' Laboratories Inc. re-examination label and approval. The fuse can be replaced and clock wound following release and operation.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER . Descriptions . Ratings . See Page 50

BREEZIT—Identify by IEN-2396 if you write the maker

Only the New **TYPE "R" MORRIS SLURRY PUMP** *has these 4 features*

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to position in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid solutions, corrosive abrasive or solids also are handled, including tailings, sludges, residue from filters and classifiers.

Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

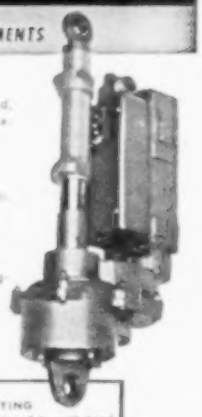
MORRIS CENTRIFUGAL PUMPS

BREEZIT—Identify by IEN-2397 if you write the maker

Custom-Built ★

MOTORS, ACTUATORS ★

FOR YOUR DESIGN REQUIREMENTS



SPECIAL MOTORS . . .
Drip proof, splash proof, totally enclosed, vapor seal, submersible, high and low extremes of operating temperatures.

SPECIAL GEARING . . .
Speed range of 30,000 to 1 R.P.M., helical spur, bevel and planetary type.

COMPLETE POWER PACKAGE UNITS
For A.C. or D.C. power source with magnetic clutches and brakes, built-in limit switches, potentiometers, thermal overload relays, radio noise filters, pressure tight shaft seals with linear or rotating power takeoff.

HOOVER POWER UNITS ARE SPECIFIED EQUIPMENT ON THE FASTEST AIRCRAFT FLYING
This 12.5-pound tail stabilizer actuator is designed to withstand an ultimate load of 15,000 pounds, an example of the severe load requirements Hoover power units are called upon to meet.

Whatever your electrical actuation problem, a Hoover unit will do the job. They can be supplied in experimental or production quantities.

HOOVER ELECTRIC COMPANY
3100 South Stoner Avenue • Los Angeles 25, California

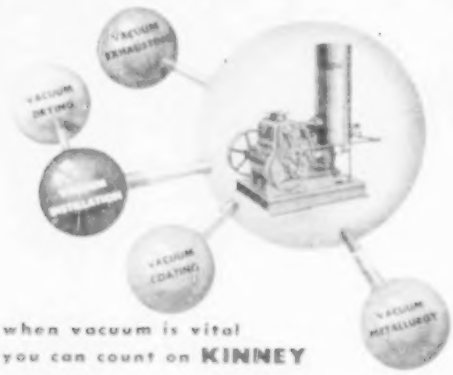
BREEZIT—Identify by IEN-2398 if you write the maker

"COMMERCIAL"

- Hydraulic Power Products
- Pumps and Motors
- Pump Capacities — 1 to 75 G.P.M.
- Motor Capacities — 1 to 20 H.P.
- Valves — Unit — Tandem or Special
- Single or Double Acting
- Cylinders — Telescopic or Single Sleeve Types
- Various Lifting Capacities to 50 Tons
- We design and build for special applications.
- Tell us what you need — Literature available.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

BREEZIT—Identify by IEN-2399 if you write the maker



when vacuum is vital you can count on **KINNEY**

KINNEY MANUFACTURING COMPANY
3564 WASHINGTON STREET, BOSTON 30, MASS.
New York • Chicago • Cleveland • Houston • New Orleans • Philadelphia
Los Angeles • San Francisco • Seattle

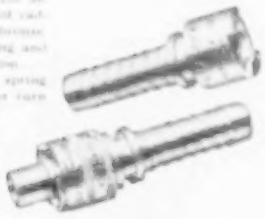
KINNEY HIGH VACUUM PUMPS

REQUEST—Identify by IEN-2400 if you write the maker

"DIX-LOCK"

Quick-Acting, Streamlined AIR HOSE COUPLING

A modern efficient coupling for all factory and field air lines up to ¾". Made of cadmium plated steel or bronze. Light weight, yet strong and durable. Snap-lock action, quarter turn against spring tension; reverse quarter turn to unlock. Hose ends, male and female I.P.T. ends. Completely interchangeable.



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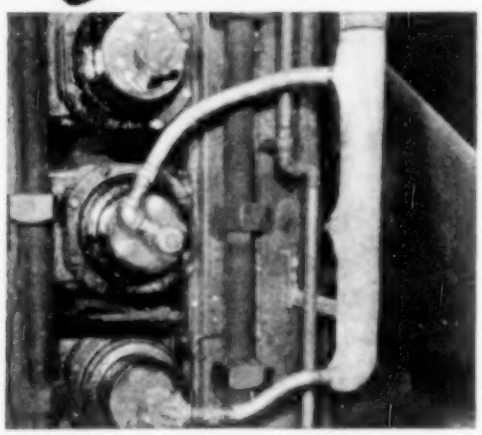
DIXON VALVE & COUPLING CO.

Hancock St. and Columbia Ave. Philadelphia 22, Pa.

Branches — Chicago • Birmingham • Los Angeles • Houston

REQUEST—Identify by IEN-2401 if you write the maker

Another Problem SOLVED—



▸ VIBRATION ▸ TORSION ▸ TEMPERATURE

with Bendix Eclipse Flexible Metal Hose

In this paper machine Bendix Flexible Metal Hose* carries steam at approximately 22 psi to the steam head of a calender. Since the main steam pipe carries considerable vibration and the steam head rotates about an eccentric center, tubing must withstand a constant spiral flexing motion. The deep parallel corrugations, uniform wall thickness and seamless construction of Bendix Metal Hose—assuring greater flexibility and longer service life—make it the perfect answer for problems of this type. Perhaps you have a similar problem. Write today and let our engineers help you solve it.

*Engineered to your requirements in 85-15 bronze, SAE 1010 carbon steel, stainless steel, Monel, beryllium copper, cupro nickel and other special alloys.

LOOK FOR THE MARK OF QUALITY

ECLIPSE-PIONEER DIVISION
BENDIX AVIATION CORPORATION
TETERBORO, NEW JERSEY

Canadian Representative: The Hallden Co., Ltd., 814 St. James Street, West Montreal 2, Canada
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, New York

REQUEST—Identify by IEN-2403 if you write the maker

SOLDERING . . Ladle and a handle for soldering irons, ventilated design

Source: UNIQUE MFG. CO.
219-23 W. Walton St., Chicago 10, Ill.

New wood handle shown at the top of the illustration has been designed for production applications as the shank of a soldering iron is set in an aperture that permits air to pass through the handle to keep it from overheating. The shank fits between two sets of spring clips, screw driven through the handle so the shank does not touch the wood. Two sizes fits shanks to ¼ inch. The handle is 6½ in. in length, 1⅝ in. in diameter at the grip.

The new ladle also is fitted with a wood handle supporting an air space around the shank. Assembly is by means of a holding screw that is entered through the rear. Four sizes have bowls measuring 2⅝ to 4 in. in diameter to hold ¼ to ½ pint. Weights are 10 to 16 ounces. Overall length is 10½ inches. List price is $1.00 to $2.20. The pouring spout is designed to prevent overflowing the bowl edge.

REQUEST—Identify by IEN-2404 if you write the maker

LIGHTING . . Reflector spot lamp has mogul screw base, rates 300 watts

Source: GENERAL ELECTRIC CO.
1 Nela Park, Cleveland 12, Ohio

List price is $3.60 and $3.

Heat-resistant glass with satin-finish frosting is employed in this new spot lamp. It is a companion to the previously developed flood unit with its heavily frosted finish. Both measure 5 in. in greatest diameter and are suited for use in plant and railroad yards, parking lots, garages, airports where subject to contact with rain, oil, grease.

REQUEST—Identify by IEN-2405 if you write the maker

EXTINGUISHING . . Quart hand unit employs air pressure to expel liquid

Source: M. L. SNYDER & SON
York & Jasper Sts., Philadelphia 25, Pa.

Stempel is a new compact hand fire extinguisher that employs compressed air to its loading at 100 lb. to expel the company's vaporizing liquid when a trigger is depressed. The liquid issues from a nozzle on a short length of hose. It can be thrown as far as 30 feet. The company is prepared to supply the liquid. The user fills it into the brass housing and builds pressure to 100 lb. from any convenient compressed air source.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

REQUEST—Identify by IEN-2406 if you write the maker

Frick Machine

FRICK Refrigeration Serves Famous Biological Lab

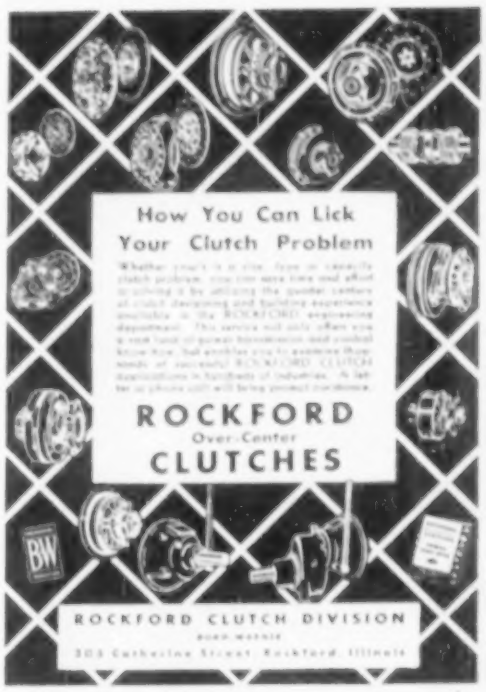
Chas. Pfizer & Company, Division of Allied Laboratories, Inc., recently celebrated its 100th anniversary as a producer of fine chemicals and pharmaceuticals for human and veterinary use. * Its plants at Terre Haute, Ind., shown above, and Indianapolis are equipped with 15 Frick machines totaling 52 tons of refrigeration. These are used for air conditioning, processing and storage work. Installation by Hayes Brothers, Inc., Frick Distributors at Indianapolis.

Let us quote on the cooling equipment you need—whether for air conditioning, ice making, or other refrigerating work.

Two of the Eight Ammonia Refrigerating Units

FRICK CO.
MANUFACTURERS OF ICE MACHINERY
Also Builders of Power Farming and Sawmill Machinery

REQUEST—Identify by IEN-2407 if you write the maker



REQUEST—Identify by IEN-2408 if you write the maker

CONE-DRIVE GEARS and SPEED REDUCERS

cost less per horsepower

due to:

1. Standardized gearing—double enveloping for greater load capacity.
2. Standard housings—more compact, lower in weight

plus

3. Standard fan-cooling attachments—for even lower cost per horsepower.

Ask for prices and specifications giving approximate hp requirements

CONE-DRIVE GEARS
DIVISION OF MICHIGAN TOOL CO.
7171 E. McNichols Rd. • Detroit 12, U.S.A.

REQUEST—Identify by IEN-2409 if you write the maker

Hydro-Clone Eliminates Odors

from oil-blowing tanks

The nauseating discharge from two oil blowing tanks at a paint and varnish works became a sizable thorn in the side of a nearby residential community. A single Whiting Type "S" Hydro-Clone (pictured at right) eliminated the fumes so completely that odors could scarcely be detected at the exhaust.

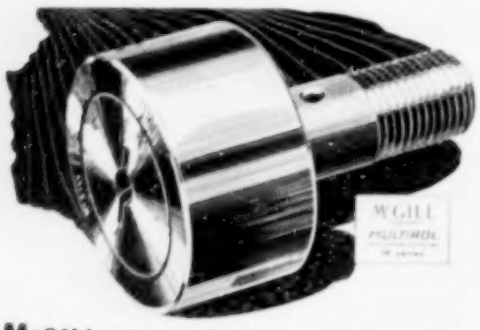
Type "S" Hydro-Clone is ideally efficient in disposing of paint and varnish as well as fine dusts. It handles fast air and gases up to 1,000F — is available in capacities from 2,000 to 30,000 cfm. Full details are in Bulletins FY-120 and FY-166.

Whiting Hydro-Clone is available in sizes for every commercial need.

WHITING CORPORATION
15629 Lathrop Ave.
Harvey, Illinois

FREE

BREVITY—Identify by IEN - 2410 if you write the maker



McGILL *adds anti-friction to ruggedness in* CAM FOLLOWER *design*

Designed with an extra heavy inner race within and a full complement of small diameter rollers, MULTIROL Cam Follower Bearings effectively absorb extreme shock loads frequently encountered in place of ordinary ball bearing cam follower units. The CF Series MULTIROL Bearings are precision built with cleanly and other carefully selected to show solely for the exception possible action and true design. Bearing parts are specially heat treated to insure toughness and load resistance.

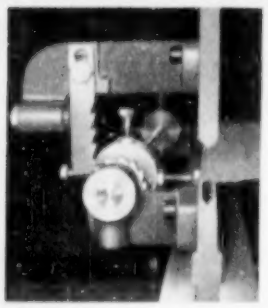
Replacing the bulkier type bolt and roller cam follower assemblies, MULTIROL Cam Followers are used extensively on automatic screw machines, lathes, paper converting and packaging machinery, printing presses, lift trucks and all types of automatic machinery. Standard sizes from ½" to 4" available from stock.

MULTIROL Cam Follower Bearings are one of several Bearing Series built by McGILL Manufacturing Co., Inc. Consult McGILL Engineers on your problems!

Write for Bulletin CF-45. McGILL Manufacturing Company, Inc., 200 N. Lafayette St., Valparaiso, Indiana.

BREVITY—Identify by IEN - 2411 if you write the maker

Save up to 40% on PRESS BRAKE PRODUCTION with this Automatic Gauge



THE *Humphrey* RODEX PRESS BRAKE GAUGE

NEW in principle . . . NEW in results!

No more re-setting of gauge strips after a single bend has been made. The Humphrey RODEX gauge makes amazing savings in material handling time through its automatic gauging feature. Pays for itself quickly and speeds production. Easy to install. Precision made. Versatile in application. Write today for complete information.

MANUFACTURED BY
GENERAL GAS LIGHT COMPANY
KALAMAZOO, MICHIGAN

BREVITY—Identify by IEN - 2412 if you write the maker

Amazing New ¾ Ton HOIST and PULLER!

BLACKBURN *Jiffy Lift*

30 DAY FREE TRIAL

Hundreds of Uses

Hand weighs only 12 lbs. and has ¾ ton capacity. Single control for up and down. Quick action, ratchet type. Factory tested. $42.95 F.O.B. St. Louis. Try it a month FREE!

MAIL COUPON TODAY

JASPER BLACKBURN PRODUCTS CORP.
First Madison & Clinton Sts., St. Louis 8, Mo.

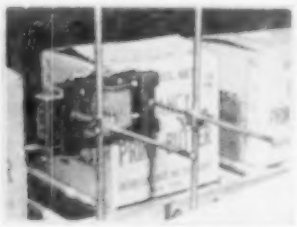
☐ Send us full information about "Jiffy Lift"
☐ Send us one "Jiffy Lift" for 30 Day FREE TRIAL

Your Name and Title .....
Firm .....
Address .....
City and State ..... IEN

BREVITY—Identify by IEN - 2413 if you write the maker

MARKING . . Drum type machine marks containers passing on a conveyor

Source: ALGENE MARKING EQUIPMENT INC.
18 W. 23rd St., 5th Fl., New York 10, N. Y.



Conveyor Marker is a new drum-type machine that mounts on a conveyor to roll inked rubber type on the side or bottom of passing containers. Printing area is maximum at 8 in. in length by 3 in. in height. The drum will take type or cuts and is served by two felt inking rollers. It will make 11,000 or more impressions with one inking. Spring backing for the drum provides even impressions on surfaces that are not flat.

The drum is cut out for a portion of its circumference so it will stop when it comes to this cut out as it is rolled by the container. It then remains idle until a ratchet arm ejects the next container and rotates it to operating position. A counter attachment can be added. The company is prepared to supply inks in desired colors and characteristics.

BREVITY—Identify by IEN - 2414 if you write the maker

CONDUIT FITTING . . Lock nut in fourteen sizes between ⅜ and 6 in.

Source: BUCHANAN ELECTRICAL PRODUCTS CORP.
1288-92 Central Ave., Hillside, N. J.

Hexagon and lug equipped circular designs are included in the company's new line of cadmium-plated lock nuts for electric conduit. Sizes from ⅜ to 6 in. are steel stampings. Larger units are malleable iron. Threads are machine cut.

BREVITY—Identify by IEN - 2415 if you write the maker

PAINTING . . Portable equipment for painting and insecticide spraying

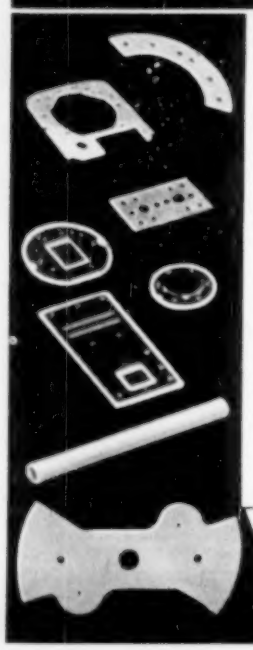
Source: ELECTRIC SPRAYIT CO.
1413-17 Illinois Ave., Sheboygan, Wis.

Motor-driven diaphragm-type air compressor mounted on a formed-steel base and equipped with a carrying handle, a 15-ft. length of air hose and an aluminum quart container and spray gun make up this new assembly. Weight is 20 pounds. The motor takes ¼ hp. List is about $27 without the motor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 2416 if you write the maker

YOU CAN DO IT BETTER WITH FORMICA



New glass-silicon grades of laminated plastic offer the maximum of heat, arc and arc-resistance plus low dielectric losses in power and radio frequencies. These and other Formica grades in sheet, tube, rod and special molded forms are used extensively for thousands of electrical applications. Easily cut, drill, form, punch, thread, engage in pulleys of belt drives for your free data. . . prove to yourself that . . . you can do it better with Formica!

FORMICA
4655 Spring Grove Ave.
CINCINNATI 32, O.

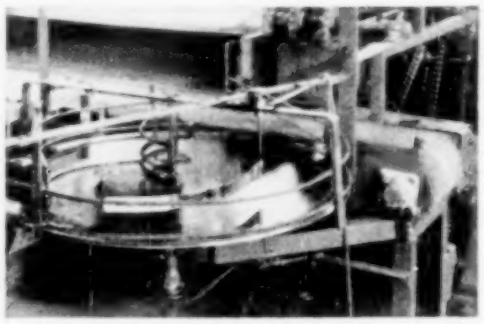
Productive
FORMICA
at Work in Industry

BREVITY—Identify by IEN - 2417 if you write the maker

. . . METAL Conveyor Belts

ASHWORTH

Engineered and built by an organization of moderate size with the will and ability to analyze your problems and "Keep Your Product on the move."

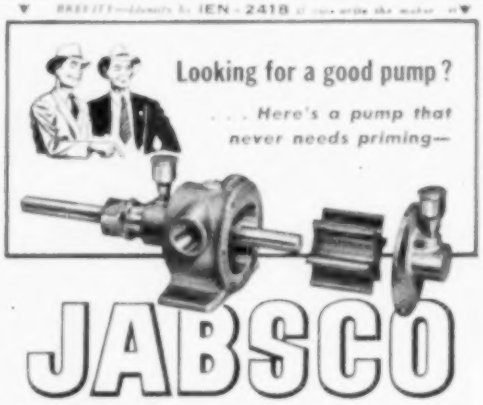


WRITE FOR BULLETIN CATALOG 400

ASHWORTH BROS., INC.
METAL PRODUCTS DIV. • WORCESTER, MASS.

Sales Engineers located at Buffalo • Chicago • Cleveland • Detroit • Los Angeles • New York • Pittsburgh • Seattle
Canadian Rep. PETERSON'S LTD. Toronto, Montreal, Halifax, Winnipeg, Vancouver

BREVITY—Identify by IEN - 2418 if you write the maker



JABSCO

the pump with the RUBBER *(oil resistant)* **impeller!**

Instantly self-priming at all times – at all speeds – Jabsco pumps are simple, rugged, and efficient. The pump's only moving part, a flexible, synthetic rubber impeller, creates a positive and powerful suction for instant self-priming. Jabsco's patented pumping action is so simple, so sure, it can't go wrong. Mounted at any angle – completely reversible – compact – self-lubricated – easy to install – Jabsco pumps are excellent in a variety of farm, food, chemical, marine, and industrial uses! Available in 6 sizes from ¼" to 1½" – in bronze and several models in stainless steel. For new pumping efficiency – for carefree performance – specify Jabsco pumps – the pump that never needs priming! For more information, for complete data sheets, write to –

JABSCO PUMP COMPANY
2031 N. Lincoln Street . . Burbank, California

BREVITY—Identify by IEN - 2419 if you write the maker

FOR *Better Working Conditions*

don't overlook a modern drinking water supply!

The most modern improvements mean nothing without that most important step . . . assurance of plentiful refreshing cool water for every worker! It's a must in any 1950 modernization program. Specify the favorite of industry . . . Halsey Taylor fountains and coolers.

THE HALSEY W. TAYLOR CO.
WARREN, OHIO

HALSEY TAYLOR
Fountains and Coolers

▼ PREFIX—Identify by IEN - 2420 if you write the maker ▼

SAVE on OPERATING COSTS and RENT with CARD *Sturdi-Lite* SAFETY LADDERS

EASY to move around. SAFE to work on, handy shelf or basket at top. Amazingly LIGHT WEIGHT but STRONG tubular ALUMINUM construction, including hand rails. Sturdy one-piece steps, non-skid rubber treads. Ball-bearing casters on two rear legs and front Swiveling Caster. Heavy coil spring keeps the two front rubber feet off floor until a person steps on ladder, then they lower and rest securely on floor.

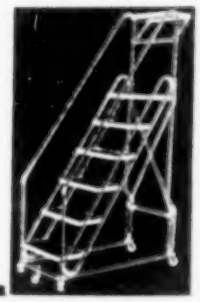
MANY Time-Saving USES in factory assembly lines, maintenance work, stock, tool and file rooms, etc.

SAFE SPACE—stack things HIGH in files, shelves, bins, lockers, etc. They're easy to get at, with CARD SAFETY LADDERS.

For NARROW AISLES—18" width in 3-step, 4-step and 5-step with shelf or basket top.

For WIDE AISLES—24" width in 4-step, 5-step and 6-step with shelf only at top.

ALSO 2-step Stools and Railways. Write



D. R. CARD COMPANY
National Distributor
829 MERCHANDISE BLDG
MINNEAPOLIS 3, MINN
Mfrs.: BURD METAL PRODUCTS
Clearwater, Fla.

▼ PREFIX—Identify by IEN - 2421 if you write the maker ▼

MICRO PRECISION SWITCHES for *Production Short Cuts*

Industry's drive for lower production costs makes plant engineers, maintenance men and electricians key men in manufacturing plants. MICRO snap-action switches are important tools for increasing efficiency in plant production.

Illustrated on this page are a few ways in which MICRO products have been incorporated in old equipment to give the up-to-date production features.

1 MICRO precision switch controls flow of oil to drills and taps

Oil is supplied from pumps to the drills and taps on the machine. Vertical travel of the spindle operates the switch and allows oil to flow on work. Return of spindle causes switch to shut off oil.

2 MICRO precision switch saves time in testing impact resistance

Switch is connected in circuit of motor which raises impact hammer to desired height. Height is graduated by sliding switch clamp up or down the post.

MICRO SWITCH Distributors with complete stocks are located in many cities to supply you with just the right switch to make your plant operations more automatic. Look them up under "Switches, Electric" in your local classified phone book or write.

MICRO MS SWITCH
A DIVISION OF FIRST INDUSTRIAL CORPORATION
FREEPORT ILLINOIS, U.S.A.

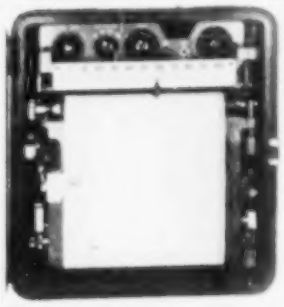
MICRO
Full name in 3 letters
Sensitive switches

BRANCH OFFICES: Chicago • New York • Cleveland • Los Angeles • Boston •
SALES REPRESENTATIVES: Portland • St. Louis • Dallas • Toronto

▼ PREFIX—Identify by IEN - 2423 if you write the maker ▼

TESTING . . Strip chart recorder for stress analysis with strain gages

Source: BALDWIN LOCOMOTIVE WORKS
Paschall Post Office, Philadelphia 42, Pa.



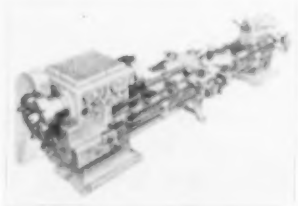
New recorder registers structural strain as signaled by the company's Type SR-4 bonded resistance-wire strain gages. The record is traced on a 6-in. chart that can be operated at 6 or 180 in. per hour. Pressure is made of a two or four arm strain bridge. The instrument is an adaptation of the Leeds & Northrup Type G Speedomax Model 8 recorder. The circuit is basically a dc potentiometer type to measure the output of the strain-gage bridge. Calibration is maintained at predetermined short time intervals by the Leeds & Northrup standardization circuit.

A two-position bridge-supply switch adjusts the circuit for 3 or 6 volts. A chordal arm gage for gage resistance between 50 and 500 ohms. Four ranges are between 1,000 and 10,000 microinches on the 6-volt bridge and between 2,000 and 20,000 microinches on the 3-volt bridge. A zero adjustment control and range-extender switch provide about 15,000 microinches, plus or minus, per inch of movement of the balance point with 120-ohm gages. Response to full-scale pointer is 3 seconds.

▼ PREFIX—Identify by IEN - 2424 if you write the maker ▼

LATHE . . Hollow spindle machine has 9 in. bore, swings 27 in. over bed

Source: R. K. LeBLOND MACHINE TOOL CO.
49 Edwards Road, Cincinnati 8, Ohio



The spindle in this new 20-in. Oil-Country lathe is mounted on anti-friction bearings and is equipped with chucks at both its ends. It forms part of a complete headstock assembly providing 18 speeds between 10 and 362 rpm. Start, stop and reverse control for the 20-hp. drive is combined with an electric brake. The headstock gears operate in oil, slide on splined shafts that are mounted on anti-friction bearings.

Feeds are selected at a quick-change gear box in which the gears are totally enclosed and lubricated. There are 63 feed and thread selections. The carriage apron is one-piece construction, models a positive jaw-feed clutch with a single lever to select longitudinal or cross movement. The tailstock mounts its operating handwheel at an angle to clear bar stock through the spindle hole and to provide for full-length spindle support. The lathe is available with center distances increasing in 24-in. increments from a start at 48 inches. Bulletin HS-111, 4 pages, carries illustrations, high points in the design and specifications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

▼ PREFIX—Identify by IEN - 2425 if you write the maker ▼

UNIVERSAL INDUSTRIAL CONVEYOR

Low First Cost . . . . Low Maintenance

Furnished in 8 lengths—6, 12, 16, 20 and 24 feet.

Literature and estimates on request

- Removable sides on power handling large cartons or kegs.
- Motor totally enclosed, needs cleaner, body easily wiped through removable vacuum-cleaning panel.
- Elevates to desired height with simple hoisting mechanism.
- Driven by means of roller chain to roller bearing equipped gear box.
- Main drive shaft and other roller carrier on double sealed ball bearing.
- Standard belt width 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M.—adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

▼ PREFIX—Identify by IEN - 2426 if you write the maker ▼

• Fluid Power Engineered Production

"LOGAN" AIR AND HYDRAULIC POWER-OPERATED CHUCKS

. . . WITH OPEN OR CLOSED CENTER

32 years' engineering know-how • Completely equipped plant • Satisfaction assured • Complete range of standard types • Extra factors of strength and durability • Accurate, dependable service.

For your complete air and hydraulic chucking systems, Logan offers an extensive line of rotating cylinders, control valves, accessories, hydraulic power units and collet grip tube fittings.

ENGINEERING SERVICE

Our engineers will solve your chucking problems with Logan special chucks, manifolds and collet chucks, no obligation.

FREE CATALOGS

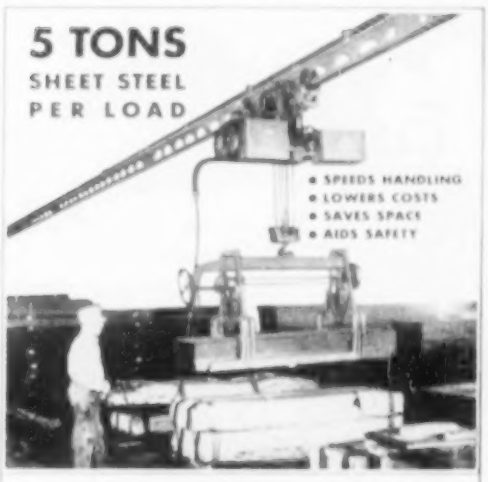
Write for catalog 50-C for Air Chucks, 51-C for Hydraulic Chucks, and 52-C for Collet Chucks, or see our nearest representative.

Logan SAVES • TIME • LABOR • MATERIAL
Air and Hydraulic Equipment
LOGANSPORT MACHINE CO. INC.

FLUID POWER SPECIALISTS SINCE 1916

▼ PREFIX—Identify by IEN - 2427 if you write the maker ▼

5 TONS SHEET STEEL PER LOAD



- SPEEDS HANDLING
- LOWERS COSTS
- SAVES SPACE
- AIDS SAFETY

One man picks up, delivers directly where needed and unloads, easier, faster, safer, with a Cleveland Tramrail overhead system and sheet grab. Hand or electrically operated equipment.

GET THIS BOOK!
BOOK No. 2008 Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4327 East 285th Street Wickliffe, Ohio

CLEVELAND TRAMRAIL

▼ PREFIX—Identify by IEN - 2428 if you write the maker ▼

Travels at Truck Speed Easily Lifts 25 Tons

Fast, easy to maneuver in crowded yards, Koehring 304 Truck Crane gets around at truck speed.

Extra lifting capacity — up to 12.9 tons over side without outriggers, 25 tons with them, at 10' radius (85% rating). Convertible to Shovel, Pullshovel, Dragline.

KOEHRING 304 TRUCK CRANE
Koehring Company, Milwaukee 10, Wis.

BREVITY—Identify by IEN - 2429 if you write the maker

● The instantaneous and effortless setting, and guaranteed positive locking of the amazing "Grip-Master" Screwless Vise add up to new savings on hundreds of drill-press and production line operations. "Grip-Master" also makes an ideal base-structure for jigs and fixtures. Hammer blows will not budge its tenacious grip obtained by an effortless press on the locking-lever. Built-in parallels level work instantly. Write today for full information and prices on the "Grip-Master" line, or ask your Dealer for a demonstration.

NATIONAL MACHINE TOOL COMPANY
DEPT. 170-C RACINE, WISCONSIN

BREVITY—Identify by IEN - 2430 if you write the maker

THIS
3-¼" DIA.
CIRCLE SHOWS
ACTUAL SIZE
OF THE CROSS-SECTION OF ORTMAN-MILLER'S
CYLINDER
WITH
3" BORE

Bore for bore, one 1-3/4 is equal to equal. All machined steel with bronze bearing surfaces. Simplified design adaptable to any application. Bore-to-8" immediately available. Write for details today.

ORTMAN-MILLER
MACHINE CO., INC.
1208 150th Street, Hammond, Indiana

BREVITY—Identify by IEN - 2431 if you write the maker

NEW!
TORQUE-ARM SPEED REDUCER

SAVES 50% of floor space required by other reducers. Locks on the shaft to the motor with a non-locking motor on each side of shaft. No special engineering required. No bolts to provide. No flexible couplings. No sliding base. No "leaning" or "side-pull" problems. No expensive motor mounts. Available from stock with stock motor shaft accessories. Ratios 5 to 1 through 40 to 1 (5 R.P.M. Output speed from 1750 R.P.M. Motor). Capacities from 1/4 to 3 h.p. WRITE for complete bulletin which includes sizes to suit requirements, ratios for constant speed, low cost, and high efficiency.

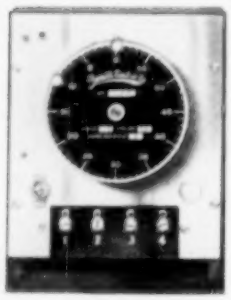
DODGE MANUFACTURING CORPORATION
600 Union Street, Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

BREVITY—Identify by IEN - 2432 if you write the maker

TIMING . . Repeat interval unit, for impulse or for on-off operation

Source: ZENITH ELECTRIC CO.
154 W. Walton St., Chicago 10, Ill.



Model RT is a new motor driven interval timer that is set by positioning a tripping rider on the 4-in. dial. It is available in four assemblies with minimum setting at 1½ to 9 sec. and maximum setting at 60 to 300 seconds. List price in each case is $55. The unit is designed for continuous repeat of impulse signals or to operate a circuit on and off in equal periods of time. Assembly is in a dust-proof housing that measures 8 by 4½ by 12 inches. The dial carries 60 divisions.

BREVITY—Identify by IEN - 2433 if you write the maker

ROOFS . . Aluminum surfaced felt for new roofs or for repair application

Source: REYNOLDS METALS CO.
2502 S. 3rd St., Louisville 1, Ky.

Also applies in flashings

Rex Kool (Brin. Selvage) is a new roofing material consisting of a 36-in. width of 15-lb. asphalt-saturated felt with 17½ in. of the width factory laminated on one side to stipple-embossed aluminum. The material is laid so each course covers an area 36 in. in width with the 17½ in. of exposed aluminum. Succeeding courses are lapped over the aluminum by 5½ in. to leave 17 in. exposed and to produce a roof covering with a double layer of aluminum protected felt.

The material weighs 40 lb. per square which contains 72 linear feet. The aluminum facing protects the felt against drying out. It keeps out light, air, moisture and ultra-violet rays. It will reflect 90 per cent of the sun's radiant heat.

BREVITY—Identify by IEN - 2434 if you write the maker

CONVEYING . . Portable belt assembly for floor-to-floor handling, stacking

Source: SAGE EQUIPMENT CO.
28-32 Essex St., Buffalo 13, N. Y.

Structural frame mounted on casters and equipped with floor locks supports a belt conveyor on guides and two jack-screws in this new assembly. The conveyor itself is available with a power-driven feed section at the bottom and a gravity wheel-type or roller section at the upper discharge end. Height range at the two ends is subject to specification. Belt width is from 6 to 36 inches. Main section length is 12 to 24 ft. in standard arrangement.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREVITY—Identify by IEN - 2435 if you write the maker

Shapes and shells of all degrees of depth have been made by Pressed Steel Tank Company, specialists in deep drawing for more than 45 years. Depths have ranged from a few inches up to 60 inches.

But no matter what the depth, all Hackney Shells give users many exclusive advantages: decreased overall weight, greater strength, faster production, elimination of expensive machining operations, greater durability, improved appearance, lower costs.

Perhaps you have a problem that might be solved by a Hackney Deep-Drawn Shape or Shell: write us for full details.

PRESSED STEEL TANK COMPANY
Manufacturers of Hackney Products
Main Office and Plant: 1441 So. 66th St., Milw. 14
1522 Vanderbilt Concourse Bldg., New York 17
251 Huron Building, Cleveland 14
Room 10, 92½ W. Peachtree St., N. W., Atlanta 3
208 South LaSalle Street, Room 2052, Chicago 4
127 Rockwell Bldg., Los Angeles 14

Hackney

BREVITY—Identify by IEN - 2436 if you write the maker

PROTECTION . . . against Wood Decay and Termites with WOLMANIZED* Lumber

Before building, remodeling or reconditioning your plant, we believe you will find this new booklet valuable. It tells you exactly what WOLMANIZED PRESSURE-TREATED LUMBER is. It explains how it protects against damage to wood caused by rot and termites. It gives you a good idea of the many applications for this remarkable cost-saving lumber—and how it saves time and money for you.

Investigations by qualified technologists prove that WOLMANIZED PRESSURE-TREATED LUMBER lasts three to five times longer than untreated wood. And, only WOLMANIZED Lumber provides all these extra advantages—clean, odorless, paintable, non-corrosive, non-leaching, glueable, and lower fire hazard.

For complete facts on WOLMANIZED LUMBER, write for free informative booklet.

*Reg. U.S. Pat. Off.

Source: AMERICAN LUMBER & TREATING COMPANY
General Offices: 332 South Michigan Avenue • Chicago 4, Illinois
Offices in: Baltimore, Boston, Jacksonville, Los Angeles, New York, Philadelphia, Portland, Ore., San Francisco, Washington, D. C.

BREVITY—Identify by IEN - 2437 if you write the maker

The JOHN CRANE Shaft Seal is being applied with tremendous success to all types of equipment involving rotating shafts. Service and product improvement results have been outstanding for this self-adjusting seal practically eliminates the human element in maintenance.

Investigate the JOHN CRANE Shaft Seal. Let our Engineers show you without obligation how this seal can add new sales features to your products.

Write today for illustrated Shaft Seal Bulletin.

CRANE PACKING COMPANY
1815 CUYLER AVENUE • CHICAGO 13, ILLINOIS

BREVITY—Identify by IEN - 2438 if you write the maker

Never Before A Portable Vacuum Cleaner with ALL These Advantages!

★ More Dust Capacity — 4.4 Cu. Ft.
★ 3 h.p. for 1 Sweeper
★ Finer Dust Separation — 30 Sq. Ft. Bag Area
★ Self-Lubricated Bearings
★ Operates 50-ft., 1½" vacuum hose
★ Built for Continuous Service
★ Carries Its Own Tools and Hose

WRITE NOW for Bulletin A-752

AIR APPLIANCE DIVISION
U.S. HOFFMAN
MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

▼ REPRINT—Identify by IEN - 2439 if you write the maker ▼

Valves That Keep VISCOUS MATERIALS Flowing Freely

When you handle coal tar products, asphalts, resins, waxes, molten sulfur, varnish and other materials which congeal at ordinary temperatures, you won't be troubled with clogged valves if you use EVERLASTING Steam Jacketed Valves.

The ample jacket space of these valves surrounds the parts as well as the body, provides extensive heating surface and correct temperature to insure fluidity. Besides, the design of the valves is quick acting . . . non-wedging . . . and self-grinding . . . and they have the straight-through flow and lasting tightness that have made EVERLASTING Valves famous for over 40 years. Write for complete information.

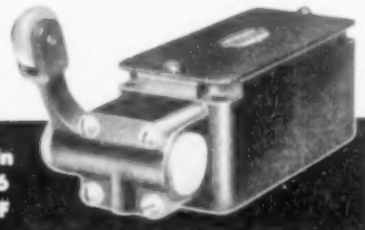
EVERLASTING VALVE CO., 49 Fisk Street, Jersey City 5, N. J.
Trade Mark "EVERLASTING" Reg. U. S. Pat. Off.

Everlasting Valves

for everlasting protection

▼ REPRINT—Identify by IEN - 2440 if you write the maker ▼

Dependable Control



Bulletin 10316 Type F

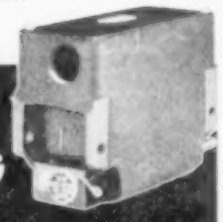
SNAP ACTION LIMIT SWITCH

THE C-H 10316 Limit Switch Type F, is available with roller lever, push roller or push rod operating heads, all of which are interchangeable. The roller lever type is available to either trip in both directions or trip in one direction and by-pass in the other direction.

Operating head locks in any position. Roller lever sets positively in 90 different operating positions (4 upset). Thus any machine mounting or field requirement is easily met.

Switch has two circuits, normally open and normally closed. Contacts adjust for different degrees of overlap, or no overlap. Switch can actuate automatic valves, reverse motor or stop overhead.

Sturdy construction has large bearings and hardened surfaces on all wearing parts. Two knock offs to over-contacts quick make and break, assuring tripping action. Maximum ease of wiring, adjustment and accessibility. Standard dustproof, watertight, or watight wiring case.



Bulletin 10316 Type J

ROTATING SHAFT LIMIT SWITCH

C-H 10316 Type J Rotating Shaft Limit Switch is a unique, handy and versatile device ideal for limiting travel IN TWO DIRECTIONS on reciprocating action equipment such as machine tools, motorized doors, pull boats, locking presses, etc. Easily driven by any suitable shaft. Adjustably controls travel on the number of revolutions made by the shaft.

To adjust travel limits, you don't calculate the device. You don't locate limiting cams, dogs, etc. You simply change the setting by means of a knob outside the cover. The rotating shaft limit switch mounts on left or right side or bottom.

Speed runs from 10 r.p.m. to 600 r.p.m. Accuracy within 1/20th of a shaft turn. Adjustable between 15 and 100 turns within 1/20th of a turn. Quick reset—½ turn of shaft in reverse direction.

Available in 2 circuits, unit in 4 circuits to handle additional control elements.

2 circuit switch has 2 normally closed contacts easily changed to normally open contacts. 4 circuit switch has 4 normally open or 4 normally closed contacts easily changed to all normally open, all normally closed, or 2 normally open and 2 normally closed. 2 circuit switch is standard in NEMA 1 dustproof, NEMA 4 watertight or NEMA 5 dustight construction. 4 circuit switch is NEMA 4 or NEMA 5 construction. CUTLER-HAMMER, Inc., 1378 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

▼ REPRINT—Identify by IEN - 2442 if you write the maker ▼

POLISHING . . Floor mounting machine, 1 to 30 hp. ratings, underslung spindle

Source: VONNEGUT MOULDER CORP.
Adler & Madison Ave., Indianapolis 2, Ind.

New Marschke Lathe-turning machine for polishing and buffing operations mounts a spindle that bears on the main housing and also on underslung design, under arm extending from the housing to the inside face of the wheel flange near the spindle end. The slotted support provides rigidity for the spindle, protects it mechanically from abuse.

Four basic sizes start with a double or single-extension spindle with motor drive from 1 to 5 hp. The second size is the same general design with 5 to 10 hp. motor. Both are available in single, multiple and variable-speed transmission. The third and fourth sizes take motors to 10 and to 30 hp. Both are double-motor machines with a double extension spindle cut to the center to simulate two single-extension machines in a common base.

Overall length of the double-extension machines is 64 to 128 inches. Distance from the housing side to the inside face of the wheel flange is 12 to 22 inches. Wheel face is 4 to 8 inches. Spindle diameter is 1½ to 3 inches. Weight is 650 to 4,200 lb. for the range of available models.

▼ REPRINT—Identify by IEN - 2443 if you write the maker ▼

CONTROL . . Recording refractometer holds constant mixture of two liquids

Source: PRECISION SCIENTIFIC CO.
3735-39 W. Cortland St., Chicago 47, Ill.

Kohomatic designates a new control instrument that maintains supervision over a mixed process liquid made up of two liquids to hold the solution at a predetermined proportion. Operation starts when the process liquid is pumped into a constant temperature bath surrounding the prism mounted in the instrument. A sodium light works light through the liquid in the sample on the sensing face and also to a photoelectric cell included in the instrument mechanism.

Response from the cell actuates a recording pen on a circular chart. The pen movement effects pressure changes in an air controller which operates diaphragm valves in the liquid supply lines making up the solution. Action depends on the angle of light refraction through the solution which, in turn, depends on the proportions of the two fluids making up the solution. Refraction index range is 1.3250 to 1.5400.

The dipping refractometer, constant temperature bath with regulation between 35 and 150 deg. F., the recorder mechanism, photoelectric cell and amplifier and the air-operated controller are in a housing 24 to 39 to 84 inches.

All Makers of These and All Other Products Are Listed in THOMAS' REGISTER — Descriptive — Ratings — See Page 16

▼ REPRINT—Identify by IEN - 2444 if you write the maker ▼

VIBRATION Fatigue Tests POINT THE WAY TO IMPROVED PRODUCTS

You can be sure if your products pass a vibration fatigue test—mechanical design and construction materials—frequently against rudeness material. Many things can be learned from tests. A "must" for aircraft, aircraft and automotive parts and assemblies. Hydraulic in use. Models to handle parts from 10 lbs. to 100 lbs.—choice of vertical or horizontal table movement. Frequencies of 600 to 3,600 c.p.m. Special machines to order. Catalog F contains treatise.

Made by the makers of All American 16X Microscope for carbide surface inspection

ALL AMERICAN Tool & Manufacturing Co.
1012 FULLERTON PKWY., CHICAGO 14, ILL.

▼ REPRINT—Identify by IEN - 2445 if you write the maker ▼

Unique Fenwal Thermoswitch* Thermostat Amazes Heating Experts By Performing The "Impossible!"

YES, the Fenwal THERMOSWITCH performs jobs that were thought to be mechanically impossible. Used for switching, gross cycling, for instance, where ordinary thermostats failed.

Use it for high limits, for extra-critical, temperature sensitive, unique THERMOSWITCH* thinks up new forms of temperature control in standard ways. Does away with costly control equipment, simple installation, maintenance fully guaranteed. Long life, easy use. Investigate the THERMOSWITCH* now.

FENWAL INCORPORATED
72 Pleasant St., Ashland, Mass.
Temperature Control Engineers

Fenwal

WRITE FOR BULLETIN ON

THERMOSWITCH*

The Precision Thermostat For Temperature Control And Detection

SENSITIVE . . . *but only to heat*

▼ REPRINT—Identify by IEN - 2446 if you write the maker ▼

Kester Solder

Kester makes only HIGH delivered copper and tinned of Rosin core solders. Kester solders are made only from newly mined grade A tin and virgin lead.

Preferred

Kester Solders are not only preferred by industry but individual workers also insist upon Kester to enable them to do their best work.

Saves Time

Contact Kester's Technical Department on your soldering problems. There is no obligation.

KESTER SOLDER COMPANY
4201 Wrightwood Avenue
Chicago 39, Ill.
Newark, N. J. Brantford, Ont.

KESTER SOLDER

SEND FOR FREE MANUAL "SOLDER AND SOLDERING TECHNIQUE"

▼ REPRINT—Identify by IEN - 2447 if you write the maker ▼

BOOK-OF-THE-MONTH every month!

The RUBEROID Co. built-up roofings
EXECUTIVE OFFICES: 500 Fifth Ave., New York 18, N. Y.
Divisional Sales Off. Baltimore, Md. Rahway, N. J. Chicago 10, Dallas, Tex. Erie, Pa. Minneapolis, Minn. Mobile, Mont. Mobile, Ala.

BREEZY—Identify by IEN - 2448 if you write the maker

PILLOW BLOCK BALANCING WAYS

Built in
1,000
2,000
5,000
10,000
20,000
Capacities

Especially suited for large diameter work as a sub-base can be made of proper height to give necessary clearance for work. Anderson Pillow Block Balancing Ways are precision built with chilled iron discs which rotate with minimum friction on sensitive special bearings. Many manufacturers have endorsed them for profitable efficient, static balancing.

Anderson Bros. Mfg. Co. Rockford, Ill.

Write for Bulletin No. 3-31

ANDERSON BROS. MFG. CO., Rockford, Ill.

Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters Hand and Power Hydraulic Straightening Presses.

BREEZY—Identify by IEN - 2449 if you write the maker

WHERE YOU MUST "LICK"

EXTREME ABRASION

INVESTIGATE

THERMALLOY* HC-250

- Abrasion resistance unsurpassed except by expensive carbide insert or hard facing materials
- Machinability in annealed condition, plus ability to be rehardened to 650-750 Brinell
- Resists oxidation up to 1800° F
- Resists wear at elevated temperatures

Write for Bulletin T-176 giving advantages, properties. Electro-Alloys Division, 1944 Taylor St., Elyria, O.

*Reg. U. S. Pat. Off.

American Brake Shoe Company — ELECTRO-ALLOYS DIVISION, ELYRIA, OHIO

BREEZY—Identify by IEN - 2450 if you write the maker

Tempilstiks°

the amazing Crayons that tell temperatures

in
WELDING
FLAME CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT TREATING
IN GENERAL

available in these temperatures (°F)
113°, 125°, 135°, 150°, 163° and so on to 400°
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132 W. 22nd St., New York 11, N. Y.

FREE — Tempil "Basic Guide to Ferrous Metallurgy"

NAME
COMPANY
ADDRESS

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-4

Let us tell you how, at this time of the year, many of you can secure copies of Thomas' Register at no charge even though the regular cost is $15. Just ask your purchasing department if it has ordered and, by now, received its 1950 edition so you can take the 1949 edition to your office in the plant. Of course that edition will not contain the corrected listings to bring it up to 1950 completeness.

It is estimated, however, that the useful life of each edition is about three years so the book is not out of date in its second year. Use it for its listings of all makers of all products manufactured in these United States. Next year order a new one for yourself to be completely current.

EXPOSITION — IEN S-5

Be certain to check April 10 to 14 on your calendar for the four-day period you can invest very profitably at the Cost-Cutting Exposition to be held by the American Society of Tool Engineers in Philadelphia. There on display will be the very latest in tools, machines, equipment, materials, supplies for your first-hand inspection. There you will surely find more than enough new ideas to repay the cost of your trip many times over.

YOUR INQUIRIES — IEN S-6

We received a swell letter from a reader who had made inquiry through IEN's reader-service department for a unit of drilling equipment. The letter told us of the excellent service by the manufacturer, of his special application of the equipment to meet the problem, of the satisfactory results. We asked for and received permission to show the letter to the manufacturer. Now everyone is pleased for his part in the whole transaction. It would be nice if we all, IEN included, were more inclined to write such letters.

FOR THOSE OPEN JOBS — IEN S-7

An eminent physician reports that the most efficiently pre-tested employees that industry can hire are in the ranks of properly retrained and rehabilitated disabled veterans. They can develop vocational aptitudes and abilities far beyond levels reached by normal workers. Their willingness to work and their determination cannot be surpassed.

SAVINGS BOND SUMMARY — IEN S-8

At the year's end Americans owned $4 billion more of Series E bonds than they held at the end of the war.

Cash sales of Series E in 1949 was $4,207,598,000 which was off 0.4 per cent from the 1948 peacetime sales peak.

Redemptions of Series E in 1949 were $3,447,896,000 or 8 per cent under 1948.

The margin of cash sales over redemptions, or of sales at issue price over current redemption value, was $759,701,000.

This is a record for the peacetime program in which some 20,000 companies are participating through the Payroll Savings Plan in the sale of Savings Bonds.

SPRING CLEANING — IEN S-9

March is a good month to look around the plant with a bit of Spring cleaning in mind. Many things can be pulled out from under the benches. Lockers can be renovated back into the tool crib and stock rooms. Makeshift wood structures can be torn out in favor of more substantial equipment. Loads of trash can be removed from storage spaces and the floors cleaned up in general. Everyone will agree that the program pays off. We offer a suggestion to start—

Make the first move one of equipping properly for the job. Have the correct tools at hand such as trash trucks, a floor sweeper, one of those magnetic pickup rollers, a traffic line marker, some floor repair supplies. You will find them all in IEN. Then get out your buckets and wash the windows, so you can see what you are doing and go to it.

BREEZY—Identify by IEN - 2451 if you write the maker

NEW MOTOR SPEED CONTROLS

for D-C Motors from A-C Lines

THIS new VARIAC Speed Control features: Operation of ½ and ¼ h.p. d-c Shunt or Compound Motors from a-c Lines—Continuously Variable Speed Range of Over 15 to 1—Fast Starting—Large Overload Capacity—Fast Stopping—Dynamic Braking—Fast Reversing—Good Speed Regulation—Smooth Operation—Less Torque Pulsation—Straightforward Circuit—All Control Equipment and Circuits in One Small, Easily Mounted Box—Does NOT Require Special Motor—Efficiently Controls ANY D-C Shunt or Compound Motor of ½ or ¼ h.p. Rating.

Write for the new MOTOR CONTROL BULLETIN

GENERAL RADIO CO.
Cambridge 39, Massachusetts
NEW YORK CHICAGO LOS ANGELES

BREEZY—Identify by IEN - 2452 if you write the maker

Varglas SILICONE

Electrical Insulating Tubing and Sleeving for wide temperature ranges

Between 85° F below Zero and 500° F above Zero

Owes its amazing temperature range to a combination of Varglas and Silicone. Resists moisture and oil—flame resistant and self-extinguishing—*Strongest of all accepted insulating materials.* Pioneered by Varflex.

TEST VARGLAS SILICONE IN YOUR PLANT

Write today for your free folder of working samples.

NEW SLEEVING AND TUBING LINE

Varflex CORPORATION
306 N. Jay St.
Rome, N. Y.

BREEZY—Identify by IEN - 2453 if you write the maker

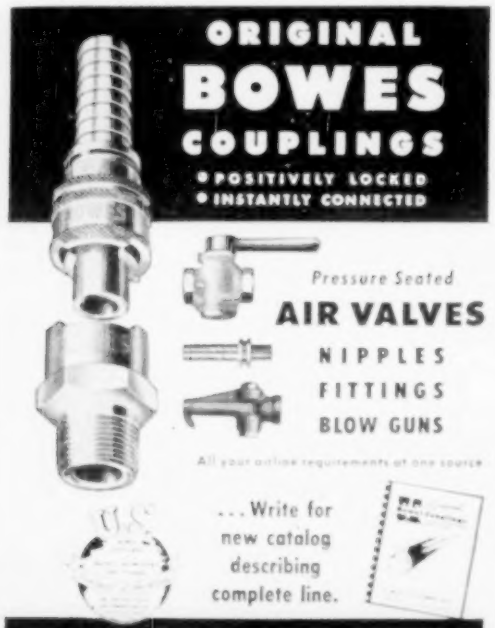
FLOWLINE Stainless STEEL WELDING FITTINGS
For all Corrosion-Resisting Applications

The Most Complete Line of Stainless Steel Welding Fittings
WELDING FITTINGS CORP.
NEW CASTLE, PENNSYLVANIA

Send for Bulletin S-200

BREEZY—Identify by IEN - 2454 if you write the maker

ORIGINAL BOWES COUPLINGS
• POSITIVELY LOCKED
• INSTANTLY CONNECTED



Pressure Seated
AIR VALVES
NIPPLES
FITTINGS
BLOW GUNS

All your outlet requirements at one source.

...Write for new catalog describing complete line.

THE UNITED STATES AIR COMPRESSOR COMPANY
5300 Harvard Avenue Cleveland 5, Ohio

BREVITY—Identify by IEN - 2455 if you write the maker

STURDY, CONVENIENT, LOW-COST

JIFFY *ALL METAL* **CABINETS**

FOR SMALL PARTS, DRILLS, TOOLS, CARBIDE TIPS AND MOUNTED POINTS

32 DRAWER UNIT • DIVIDES INTO 96 COMPARTMENTS **$8.95**

POSTAGE PAID

64 DRAWER UNIT • DIVIDES INTO 192 COMPARTMENTS **$15.95**

Rustproof Aluminum Drawers

Complete set of Dividers and Index Cards supplied.

APPROXIMATE SIZES
DRAWER 1¼" Deep 2¾" Wide 6" Long
32 DRAWER UNIT 6" Deep 12¼" Wide 15¼" High
64 DRAWER UNIT 6" Deep 25½" Wide 15¾" High

Spot welded steel cabinet, metal flange drawer guides, enamel finish and solid one-piece aluminum drawers in natural satin finish. The first multiple drawer metal cabinet for convenient storage of small parts, drills, tools, carbide tips, mounted points or assembly bench work of such a low cost. Orders now for immediate delivery. Send check or money order or rated companies shipped on receipt of purchase order.

KAYTEE PRODUCTS

DEPT. L - BOX 588 - CANTON, OHIO

BREVITY—Identify by IEN - 2456 if you write the maker

PIPE VISE

plus . . . a handy work bench

RIDGID Tristand's tray keeps all your tools in easy reach

● No stooping, less fatigue and speedier work now that you don't have to bend over every time you change tools. New tray attaches in a jiffy, makes Tristand rigid so it can't fold up in use. Legs have rubber feet to prevent creeping. RIDGID's LonGrip tool-steel jaws won't slip, won't mar polished pipe and tubing. Yoke vise, 2½" capacity; chain vise, 4." Buy new work-saver RIDGID Tristands from your Supply House.

RIDGID

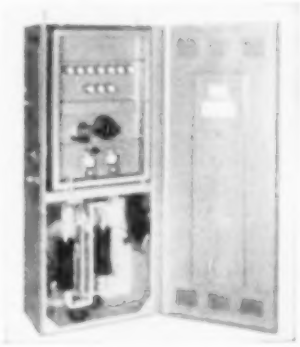
WORK-SAVER PIPE TOOLS

THE RIDGE TOOL CO. • ELYRIA, OHIO

BREVITY—Identify by IEN - 2458 if you write the maker

WELDING . . Electronic control for application on resistance machines

Source: WESTINGHOUSE ELECTRIC CORP. 306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.



Synchronous and non-synchronous designs are available in a new electronic control assembly for application on resistance welding machines in which all of the functions are controlled electronically. Moving parts are limited to initiation and accomplishment in the power and control circuits.

Basic equipment includes the Ignitron contractor for the power circuit, located in the lower compartment of the control housing, and the required timing and sequence units for the control circuit, in the upper compartment. The control circuit includes a sequence-weld-timer panel and a means to fire the Ignitron tubes. Space also is provided for auxiliary controls to meet specific requirements.

Bulletin B-4309, 16 pages, provides illustrated detail information on the basic equipment and on the special forms in which it can be assembled for given welding action.

BREVITY—Identify by IEN - 2459 if you write the maker

PIPE FITTING . . Rotary joint connects stationary and rotating lines

Source: ROTHERM ENGINEERING CO. 4909-13 W. Irving Park Road, Chicago 4, Ill.

Three sizes, between ½ and 1½ pipe, are available in this new cartridge-type rotary joint. The design is characterized by the cartridge connecting sleeve that lies between a stationary connector ball in an anchored pipe-connector head, to the left as the joint is shown, and a rotating connector ball that threads into the rotating line or equipment such as a roll that is to be steam heated or water cooled.

The sleeve assembly carries sealing seat rings that bear against the two balls due to the action of the internal sleeve spring between them. It also carries a set of seat rings so the sliding parts of the sleeve itself will not leak. The balls permit misalignment. The sleeve permits replacement as a unit when new packings or new seats are required.

The joint will handle pressure to 150-lb. steam, 350-lb. water or oil. It operates in a temperature range between minus 40 and plus 450 deg. F. Distance between the two faces into which the connectors thread is 5½ to 7¼ inches.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2460 if you write the maker

AGASTAT

TIME DELAY RELAY

IDEAL for applications that are subject to voltage fluctuations. Have you a time delay problem? Perhaps we can help! Write us for data with AGASTAT DC and AC operation. Literature on request.

Write Agastat Division

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AGASTAT AIRPORT MARINE COMPONENTS

AMERICAN GAS ACCUMULATOR COMPANY

1027 NEWARK AVENUE, ELIZABETH 3, NEW JERSEY

BREVITY—Identify by IEN - 2461 if you write the maker

STEAMLINED!

to heat water fast, at low cost

In the Johnson Heater, water to be heated is routed into mode, then outside, a blanket of live steam. It's full pressure steam, too, up to 150 lbs., in 250 lbs. in heavy duty types, no reducers are needed. The result: faster, more efficient heat transfer for a unit of its size. No wonder industry has found so many applications for the Johnson "Instant" Heater, in heating water and process liquids of various types.

Sizes for all needs; write for literature

The Johnson Corporation

805 Wood St., Three Rivers, Mich.

BREVITY—Identify by IEN - 2462 if you write the maker

MEET INSPECTOR on in find those on Allis-Chalmers Metal Detectors to safeguard the quality of their products and protect their processing equipment. Installed at the raw material, processing or packaging stages these metal detectors, or anti-magnetic particles as small as .093 mm in diameter.

The visual installation above is just one application. Other industries that are profiting with A-C Metal Detectors include plastics, candy, bakery, dairy, drugs, textiles, gum, food, rubber, cosmetics and more.

To find out about production for your plant contact an A-C office or write the Industrial Division. A-2493

ALLIS-CHALMERS, 909A SO. 70 ST. MILWAUKEE, WIS.

ALLIS-CHALMERS

BREVITY—Identify by IEN - 2463 if you write the maker

Now every shop can have the advantages of BAND SAWING

The new Wells Model 49A fits the smallest shop's budget, yet it does a man-sized job in any plant. From its welded steel frame to its tubular steel base, the Wells Model 49A is a rugged shop tool that will give long, dependable service. Its portability is unequalled. Capacity: Rectangular—3½" x 6½". Rounds—3½" diameter. Easy to operate without special training, the Model 49A can be used by anyone in the shop. Automatic shut-off at the end of the cut eliminates the need for the operator to stand by. Write for complete details.

Wells

Products by Wells are Practical

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION

111 Madison St. Three Rivers, Mich.

▼ RREFITT—Identify by IEN - 2464 if you write the maker ▼

• Now available in three shapes—Straight, Angle and L Type—to suit every requirement of size and use. Sturdy ball-bearing construction gives dependable, easy swiveling. Prevents leakage and maintains tight seal.

Write now for complete free information. Alemite, Dept. K-30, 1850 Diversey Parkway, Chicago 14, Ill.

ALEMITE
Industrial Lubrication Equipment

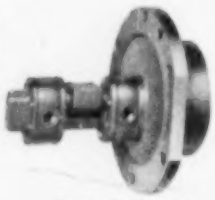
▼ RREFITT—Identify by IEN - 2465 if you write the maker ▼

Custom-Built
PUMPS
for Special Jobs

Flange Mounted Rotary Geared Pump readily adapted to many machines

Flange Mounted Rotary Geared Pump with Multiple Pipe Connections

Your problem of getting a special pump may be solved easily if you put it up to Brown & Sharpe. With experience in designing pumps for many special purposes in many different fields of industry, enables Brown & Sharpe to solve special pump problems quickly, often at worth while savings. Send specifications for economic solutions. Brown & Sharpe Mfg. Co., Providence 1, R. I.



Duplex Unit can be arranged to pump dissimilar liquids

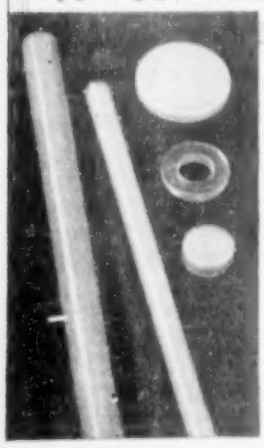
We urge buying through the Distributor

GEARED VANE
CENTRIFUGAL
MOTOR DRIVEN

BROWN & SHARPE BS

▼ RREFITT—Identify by IEN - 2466 if you write the maker ▼

NYLON . . MOLDED TO YOUR REQUIREMENTS



VALVE SEAT DISCS
in FM-10001 (Rigid) Nylon

VALVE WASHERS
in FE-1044 (Semi-Rigid) Nylon

CONTRACT NYLON MOLDING
We have the set-up and the experience to give you the best in nylon parts molding in small or large quantities.

SEND FOR QUOTATIONS ON SPECIFIC REQUIREMENTS

NYLON RODS
FOR IMMEDIATE DELIVERY
in ¼", ⅜" and ½" diameters and 8½" lengths in FM-10001 Nylon. Quantity prices on request.

S.S.WHITE PLASTICS DIVISION
THE S. S. WHITE DENTAL MFG. CO.
DEPT. NP 10 EAST 40th ST., NEW YORK 16, N. Y.
FLEXIBLE SHAFTS AND ACCESSORIES
MOLDED PLASTICS PRODUCTS · MOLDED RESISTORS

▼ RREFITT—Identify by IEN - 2467 if you write the maker ▼

MELTING . . Electric furnace, crucible type for precious metals

Source: JELRUS CO.
136 S. 52nd St., 8th Fl., New York 19, N. Y.

New design of the Handi-Melt electric furnace, previously described IEN-3161-49, adds a pyrometer to indicate metal temperature to the maximum of 2,000 deg. F. The furnace connects to a 110-volt ac. or dc. power source through an extension cord and indicator-switch housing. The unit itself carries a graphite crucible, employs resistance elements to provide the heat. Input rating is 1,250 watts.

List price is $82 without the crucible which adds $2.50. Crucible dimensions are 1⅝ by 4½ in. inside. Capacity is 30 Troy oz. based on gold, 1½ lb. of brass. Melting time is 12 min. for 30 oz. based on a metal that melts at 1,800 deg. F. Overall dimensions are 3½ by 8 by 10 inches.

▼ RREFITT—Identify by IEN - 2468 if you write the maker ▼

SEALING . . Water white liquid to seal wood, fabrics, close cracks

Source: X-PANDO CORP.
43-17 36th St., Long Island City 1, N. Y.

Can be buffed to satin finish

Transparent Sealer is a new mixture of natural and synthetic gums in a liquid vehicle for application by brush or cloth on surfaces of wood, fabrics, in cracks between rubber and glass, on products such as cord, tents that require sealing against penetration of moisture. Application does not stiffen the coated surface. Drying takes place due to evaporation of the vehicle to leave the gums in the previously open pores.

▼ RREFITT—Identify by IEN - 2469 if you write the maker ▼

PUMP . . Miniature vane type rotary with integral mounting on ¼ hp. motor

Source: PROCON PUMP & ENGINEERING CO.
1602 E. 8-Mile Road, Detroit 3, Mich.

Capacity is to 1 gpm. with pressure to 200 lb. In this new motor-mounted rotary pump. It is assembled on a steel plate held by studs on the end frame of a ¼-hp. motor with belt connection between motor and pump. It can be positioned above the motor as shown or at either side.

Construction is in corrosion-resistant design. Water, oil, gasoline, fuel oil, liquid chemicals can be handled. Snap rings hold the operating parts in place and permit disassembly of all of these parts without tools when they are removed. A relief valve in the housing can be set to limit the pressure. Flow is free through the pump when it is standing.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ RREFITT—Identify by IEN - 2470 if you write the maker ▼

A Few Turns Restore Battered and Rusted Threads

Flats and nicks eliminated—even heavily corroded threads quickly cleaned, so that nuts turn off and on freely. Think of the time and money saved! No more fitting or hack-sawing to remove damaged bolts and studs. Just slip on your Buckingham Thread Cleaner, tighten the jaws, then turn!

Buckingham Thread Cleaners Follow the pitch of any right or left hand thread with wide diameter from ¼" to 4". No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. The jaws should be placed back of the damaged area and then turned off through that section. See your nearest Buckingham dealer or write us today for further information.

THREAD SIZES	Price
8102 — ¼" to 1" inch diam.	$ 8.00
8104 — 1" to 2½" inch diam.	11.00
8106 — 2" to 4" inch diam.	23.00
8204 — 1" to 2½" inch diam.	19.00

BUCKINGHAM MANUFACTURING CO., INC.
49-51 Travis Street Binghamton, N. Y.

▼ RREFITT—Identify by IEN - 2471 if you write the maker ▼

COLUMBUS McKINNON
CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: NEW YORK • CHICAGO • CLEVELAND • SAN FRANCISCO
Other Factories at Angola, New York, St Catharines, Ontario and Jeannesburg, S. A.

▼ RREFITT—Identify by IEN - 2472 if you write the maker ▼

2 Lives for Your Electric Drives

G-E SERIES MOTOR PARTS
with the
New Stabilized Cartridge Brush Mechanism

THEY WILL
SLASH MAINTENANCE!
MULTIPLY PRODUCT SALES!
INCREASE ON-THE-JOB TIME!

For more information about these NEW MOTOR PARTS that LAST TWICE AS LONG write to Apparatus Dept., General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC
700-105

BREVITY—Identify by IEN - 2474 if you write the maker

WIRE MESH

Maybe it all does look pretty much the same at first glance. But when a firm has been making wire mesh for 70 years man and boy, there's bound to be a little more to it than meets the eye — a little more know-how in engineering and weaving, a little more quality in the product, a little more service and satisfaction for the user.

JELLIFF WIRE MESH is woven in all ductile metals

JELLIFF WIRE MESH is woven in all commercial weaves

JELLIFF WIRE MESH is woven in widths up to 72 inches

JELLIFF WIRE MESH is economical. Every foot runs true to the specifications

* * * *

JELLIFF WIRE MESH is a quality product and has been for 70 years. You can depend on it.

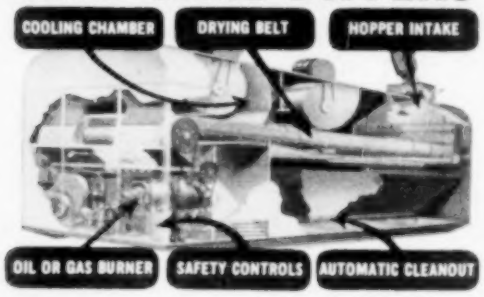
Write today for full details about JELLIFF WIRE MESH, JELLIFF WIRE MESH PRODUCTS, and JELLIFF'S CONSULTATION SERVICE on wire mesh engineering. Address Department 12.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS · LEKTROMESH · RESISTANCE WIRE · WIRE MESH PARTS · WIRE CLOTH · STRAINERS • FILTERS
SOUTHPORT CONNECTICUT

BREVITY—Identify by IEN - 2475 if you write the maker

Automatic Heating and Cooling

ARID-AIRE DRYERS



Oil, Gas or Steam-Fired

The Arid-Aire operates on a horizontal, conveyor belt principle as recommended by leading dehydrating engineers. Dries a wide variety of products to the desired moisture content (not recommended for flouty substances). Wet material enters the hopper at one end, spreads out onto an 8-ft. wire-mesh apron, moves slowly through agitators, heating compartment and cooler. Air passes through material. 25' x 8½' x 9'; weighs 11,500 lbs. Arrives assembled, ready to operate, either wheel or skid mounted. *Write us your specific requirements:* List the products to be dried, percentage of moisture to be extracted, maximum temperatures used, etc. Arid-Aire engineers will give you a thorough analysis and frank opinion at no obligation.

- Temperatures up to 300°
- Automatic temp. controls
- No scorching or clogging
- Simple, low-cost operation

ARID-AIRE MANUFACTURING CO.
404-1 Second Ave. So., Minneapolis 1, Minn.

BREVITY—Identify by IEN - 2476 if you write the maker

U/S

U.S.I. SOUND POWERED

assures dependable communication

SAVE TIME... DON'T WALK... TALK!

Send for this new catalog describing advantages of U.S.I. Sound Powered Telephones.

CUT COSTS...
INCREASE YOUR EFFICIENCY

UNITED STATES INSTRUMENT CORPORATION
SUMMIT---NEW JERSEY

BREVITY—Identify by IEN - 2477 if you write the maker

SEALING . . Flexible plastic spout includes shipping seal and screw cap

Source: RIEKE METAL PRODUCTS CORP.
30 Rockefeller Plaza, Rm. 4829, New York 20, N. Y.

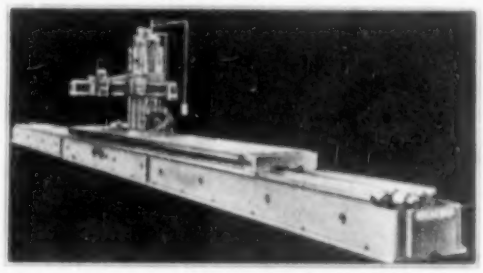
FlexSpout trade names a new closure that has been developed by the company for sale to pail manufacturers for application on 5-gal. or larger pails made of 22 or 24 gage steel with light or lugged heads. The unit consists of a main thermoplastic body with an integral flexible neck, a screw cap, a metal rim/clamp ring and a metal seal. It is supplied by the pail maker in place on lugged heads. It is shipped to the pail maker separately for installation in the head opening after a light-head pail has been filled. It applies on the flange around the 2⅝-in. pail opening with the aid of a crimping tool the company supplies for a list price of $40.

The user of the material shipped in the pail opens the seal with a knife and cuts out a diaphragm that is integral with the body after unscrewing the plastic cap. He then pulls out the body which will extend from the pail head as shown in the illustration and he is ready to pour. He can press the body back into the head opening at any time and replace the screw cap to seal the remainder of the material in the pail. A filled pail can be dropped six feet to fall on the closure without breaking it due to its flexibility.

BREVITY—Identify by IEN - 2478 if you write the maker

PLANING . . Hydraulic machine, openside design with a 33 ft. stroke

Source: ROCKFORD MACHINE TOOL CO.
2502 Kishwaukee St., Rockford, Ill.



New machine measures 73 ft. in overall length and about 14 ft. in height. Its design follows the company's standard hydraulic machines in infinitely variable speeds to the maximum correct for carbide tools. Return stroke can be set independently of the cutting speed for rapid traverse under all conditions.

Three tool heads are employed, one on the column and two on the crossrail. The outboard head covers a maximum work width of 72 in. and the inboard unit a width to 60 inches. Maximum distance table to rail is 72 inches. Control for all of the machine movements centers at a pendant station.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2479 if you write the maker

Automatic Liquid Volume Control

with NIAGARA *Electricontact* METERS

Niagara Meters for any commercial liquid are combined with a precision electric contact to provide automatic shut-off for such operations as (1) stopping the flow of liquid through the pipe (2) shutting off a pump motor (3) visual or audible signal to operator. Increase processing accuracy — with dependable Niagara *Electricontact* Meters!

Please send me full information on use of your Niagara *Electricontact* Meter for
Liquid
Temp. °F Pressure p.s.i.
Flow rate g.p.m.
Maximum Batch gals.
Company
By
Address

Send Coupon for Complete Data!

BUFFALO METER CO.
2929 MAIN STREET BUFFALO, N. Y.

BREVITY—Identify by IEN - 2480 if you write the maker

COMPACT

Series "K" Roper Pumps

Yes, you can save space and reduce power costs with Roper Series "K" Pumps. They are very compact in design, yet sturdy enough to handle a wide range of jobs . . . pressure lubrication, hydraulic service, fuel supply, or transfer work pumping clean liquids at capacities up to 50 g.p.m.

They are self-priming and by the liquid pumped . . . handle total suction lifts up to 15 feet . . . some equipped with mechanical seals or packed box . . . with or without relief valve.

Series "K" pumps are available in 4 to 50 g.p.m. sizes, pressures to 150 p.s.i.

ROPER *Rotary Pumps*

Write for latest bulletin

GEO. D. ROPER CORP.
203 Blackhawk Park Avenue
ROCKFORD, ILLINOIS

BREVITY—Identify by IEN - 2481 if you write the maker

with GENERAL PLATE Precious and Composite Metals and Products

The resources of General Plate — in single base metals, Laminated Metals, Clad Metals, Electrical Contact Materials, Formed Precious Metal Products — put the engineers and designers at your service to simplify designs, reduce the amount of high cost metals . . . maintain the required performance.

In precious or base metal combinations, General Plate offers you hundreds of possibilities to improve or lower costs of the precious metal. Base or base metal fasteners provide physical properties not found in single base metals.

We can furnish complete information on General Plate Products under. Our engineers will help you with your problems.

General Plate Products Include:
• Clad Metals (Bimetal, Trimetal) • Electrical Contact Materials • Base Metal Fasteners • Precious Metal Products • Silver solders • Electrical contacts, bottom, tinsel • Platinum, iridium, palladium, rhodium, ruthenium • Age hardening 4000-720.

GENERAL PLATE
Division of Metals and Controls Corporation
703 FOREST STREET, ATTLEBORO, MASS.

BREVITY—Identify by IEN - 2482 if you write the maker

famco Model "612" METAL CUT-OFF BAND SAW

Offers New Design Features

• From a finished machine tool, the Famco "612" Metal Cut-Off Band Saw cuts all shapes, all types of metals. It's ruggedly built of semi-steel castings and alloy steel. Can aluminum guards provide extra safety. Capacities up to 6" round and 6" x 12" rectangular stock. Made in the typical Famco tradition of "the highest quality machine for the money."

A Few Famous Famco Features

Write for Free Catalog

FAMCO MACHINE CO., 1303 18th St., Racine, Wis.

famco (COST CUTTING) **machines**

ARBOR PRESSES • DRILL PRESSES • METAL CUT-OFF SAWS
POWER PRESSES • FOOT PRESSES • SQUARING SHEARS

BREVITY—Identify by IEN - 2483 if you write the maker

BREVITY—Identify by IEN - 2484 if you write the maker

BREVITY—Identify by IEN - 2485 if you write the maker

BREVITY—Identify by IEN - 2486 if you write the maker

PUMP . . Hand operated unit to dispense liquids from containers

Source: GENERAL SCIENTIFIC EQUIPMENT CO.
2701 W. Huntingdon St., Philadelphia 32, Pa.

No. 77 is a new assembly to the company's line of hand-operated liquid-dispensing pumps previously described IEN 5654-49. The new unit employs a diaphragm made of plastic-coated cross-weave cord to handle liquids such as paint and lacquer thinners, detergent oils, linseed oils, solvents. Metal parts are plated. Valve seats are brass. Disc construction is in Bakelite. There is a back drain.

The pump has an adjustable suction pipe to fit ¾, 1½ or 2 in. drum openings. Weight is 10 pounds. List price is $17.75.

BREVITY—Identify by IEN - 2487 if you write the maker

BROACHING . . Three blade cutter, bore diameter from 5/16 to 1½ in.

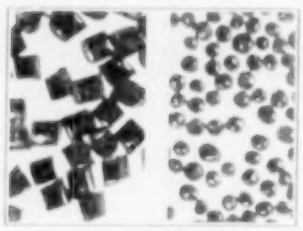
Source: KASE MACHINE CO.
18423 Buffalo Ave., Cleveland 19, Ohio

Three slots or keyways from 1/16 to ⅝ in. in diameter, depending on bore diameter, are cut simultaneously by application of this new Glenny push broach. The cutter is available in bore diameters from 5/16 to 1½ in. in 1/16-in. increments. It follows standard design in the line with adjustment for blade position radially. A typical work piece is shown.

BREVITY—Identify by IEN - 2488 if you write the maker

CLEANING . . Iron and steel shot for use in abrasive blast machines

Source: STEELBLAST ABRASIVES CO.
6534-38 Carnegie Ave., Cleveland 3, Ohio



Five-Star Malleabilized shot and grit is a new metal abrasive that has been added to the company's lines of blast cleaning abrasives for general applications. Kut-Steel is the second of the two new materials. It is suited also for blast peening operations. It has hardness of 40 to 52 on the Rockwell scale. The steel shot is cut from wire as shown to the left in the illustration. It wears to the pellet shape shown on the right after 1,500 passes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2489 if you write the maker

BREVITY—Identify by IEN - 2490 if you write the maker

HALF THE FASTENING TEAM

Where's the point in perfectly-accurate screws and pipe plugs like Allen if you use a wobbly offset key that bends, strips or gives way? A genuine Allen Hex Key in a genuine Allen ⬡ Socket is the perfect combination. Genuine Allen Keys of Alloy Steel have the name stamped right on the side, and are available singly or in handy kits at leading distributors everywhere.

WARNING
Allen-Type screws aren't necessarily Allen-Made. Get genuine "Pressed Formed" Allen ⬡ Head screws in the black and silver box.

ALLEN (ALLEN HEAD) MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

BREVITY—Identify by IEN - 2491 if you write the maker

BREVITY—Identify by IEN - 2492 if you write the maker

▼ BREVITY—Identify by IEN - 2493 if you write the maker ▼

Interlocking wires lace together to form a continuously flat and extremely flexible, open mesh, conveyor belting. Simple to install, it is positively driven, easily guided, readily cleaned and quickly repairable.

Available in cadmium plated or stainless steel, it can be supplied in light or heavy gauges, and in widths from 2". Special sizes, designed to your specifications, can be supplied at no extra charge. Most belts can be delivered from stock.

For typical applications and illustrated uses, write:

WIRE BELT COMPANY OF AMERICA
750 Main Street, Cambridge 39, Mass.

▼ BREVITY—Identify by IEN - 2494 if you write the maker ▼

Write for Catalog
OF USES
and SPECIFICATIONS

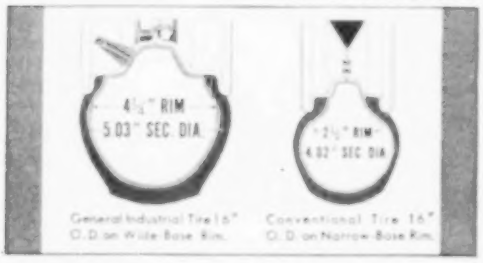
GENERAL Industrial Pneumatics

ADD THESE 6 SELLING POINTS TO YOUR PRODUCT

SAVE
- TIME
- LABOR
- FLOORS

REDUCE
- BREAKAGE
- MAINTENANCE
- COSTS

Available in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 23"—200 to 2000 lbs. cap. for low or high speeds.



General Industrial Tire 16" O.D. on Wide Base Rim. Conventional Tire 16" O.D. on Narrow Base Rim.

MORE
- AIR VOLUME
- STABILITY
- LOAD CAPACITY
- MILEAGE

THE GENERAL TIRE

SEND FOR CATALOG . . . DEPT. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

▼ BREVITY—Identify by IEN - 2496 if you write the maker ▼

WINDING . . Payoff spindle head maintains uniform tension on the wire

Source: ASSOCIATED PRODUCTION CO.
160-64 N. Clinton St., Chicago 6, Ill.

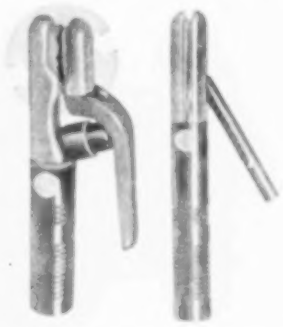
Model T-49 is a new assembly of brake-equipped spindle to take a wire spool to 6 in. in diameter and a wire-tension arm, wheel-equipped arm, over which the wire is taken to a winding operation. The arm is spring-backed. Independently from the spring-set brake so its action can be independently adjusted. As tension increases in taking wire from the spool the arm is pulled down and the brake is relieved. Release of the tension permits the brake to tighten.

The tension arm travels 45 deg. or about 6 in. on constant spring tension so the act of backing a winding arbor one or more turns will not result in loss of the tension. The housing is aluminum. The spindle is mounted on ball bearings. Wire range handled by the head is No. 20 to No. 40.

▼ BREVITY—Identify by IEN - 2497 if you write the maker ▼

WELDING . . Arc electrode holders blade and jaw types, plastic insulated

Source: JACKSON PRODUCTS CO.
31737-41 Mound St., Warren, Mich.



Model BT-3, to the right, is a new blade-type holder in which spring type blades ⅝-in. in width hold the electrode shank in their own spring steel grip at any of four angles. The blades are separated by depressing the insulated lever on the side of the holder to release a stub or receive a fresh electrode. The assembly includes a copper-alloy cable connector to which the welding cable brass, solders or clamps. List price is $5.50.

▼ BREVITY—Identify by IEN - 2498 if you write the maker ▼

DRIVES . . Technical selection data to assist in application of electric clutch-brake

Warner Electric Brake Mfg. Co.
P. O. Box 518 A, Beloit, Wis.

Information required to compute clutch and brake torques, formula to figure heat dissipation rates in either the company's brake or clutch, and charts for selection of a required size are contained in a new 28-page loose-leaf Book No. 701. Illustrations and description of both the clutch and the brake are included. Mounting dimensions are given.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

▼ BREVITY—Identify by IEN - 2499 if you write the maker ▼

▼ BREVITY—Identify by IEN - 2500 if you write the maker ▼

Hydraulic Dynamometers

for **EXACT PERFORMANCE DATA** *on prime movers!*

HI-EFF

Write for Bulletin No. 760

You can depend on the performance data taken from a Taylor "HI-EFF" Hydraulic Dynamometer. Efficient, compact Taylor "HI-EFF" offers the most economical investment and maintenance cost per hour. 72 different capacity models, each with wide range of h.p. and speed. Capacities from fractional to 10,000 h.p. Speeds from 0 to 25,000 r.p.m. Reversible if desired. Taylor engineers will be glad to make recommendations.

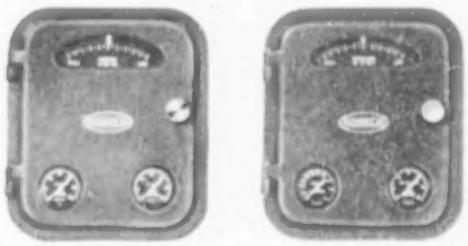
Dynamometers • Static Balancers
Precision Drilling Machines

TAYLOR DYNAMOMETER & MACHINE CO.
5109 WEST CENTER STREET MILWAUKEE 10, WIS.

▼ BREVITY—Identify by IEN - 2501 if you write the maker ▼

Two Masoneilan Controllers

That Provide Precise Control at Moderate Cost
IN A MAJORITY OF PRESSURE APPLICATIONS
IN MANY TEMPERATURE APPLICATIONS



No. 2700 Pressure Controller — No. 3700 Temperature Controller

NOTE THESE MASON-NEILAN FEATURES

1. Same basic control unit functions for pressure and temperature control, interchangeable, permits stocking fewer parts.
2. Compact, durable & reliable, fewer parts, fewer adjustments, longer life.
3. Control valve action, direct or reverse, by simple adjustment.
4. Exceptional speed of adjustment between load limits.
5. Compact and quick-acting, simple, sensitive, all important internal parts of bronze, Monel or 18-8 stainless steel.
6. Control action accurately with either bimetals or bellows.

Masoneilan models 2700 pressure and 3700 temperature controllers are known worldwide as the most dependable, accurate, and economical control equipment available. Their performance record — proved operating performance, plus the professional support and care of affiliated

MASON-NEILAN REGULATOR CO.
1186 ADAMS STREET, BOSTON 24, MASS., U.S.A.

▼ BREVITY—Identify by IEN - 2502 if you write the maker ▼

Rolling Steel Doors

Manually • Mechanically • Power Operated

When you want greatest economy of space, both inside and outside of the opening, greatest protection, convenience, dependability in operation and number of years of trouble-free service, you will find these features in greatest measure in a good rolling steel door. When you buy Mahon Rolling Steel Doors, you are insured the latest developments in doors of this type . . . you get exclusive design and operating features which continue to gain favor with industrial, commercial and transportation concerns throughout the country. See Sweet's Files for detailed information, or write for Catalog No. G-49.

THE R. C. MAHON COMPANY
Detroit 11, Michigan • Representatives in All Principal Cities

MAHON

REFER—Identify by IEN - 2503 if you write the maker

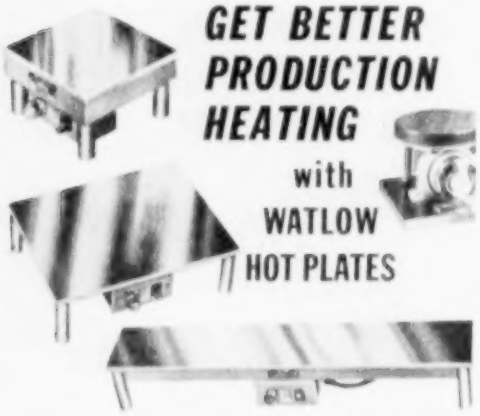
The use of DRACCO Pneumatic Conveyors offers many advantages—the most important is that it costs MUCH LESS to move chemicals, grains and granular materials with a DRACCO Pneumatic Conveyor. In many plants where costs were considered low, DRACCO Engineers have been able to make substantial savings. Why not have them check your plant? DRACCO Engineers have over 35 years' experience reducing handling costs. It may be possible to make substantial savings in your plant.

For Further Information Write

DRACCO CORPORATION
4049 E. 116th Street, Cleveland 5, Ohio New York Office: 120 West 42nd St.

PNEUMATIC CONVEYORS • DUST COLLECTORS

REFER—Identify by IEN - 2504 if you write the maker



GET BETTER PRODUCTION HEATING with WATLOW HOT PLATES

For many heating and pre-heating operations requiring wide range of accurately controlled temperatures . . . Surface plate is highly polished steel — no plating to flake off. Leveling feet. Rectangular shapes in almost any size to order. Controls for temperatures up to 550° F — three-heat snap switches for 550° to 850°.

Send for the Watlow Electric Heating Units Catalog

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW
ELECTRIC MANUFACTURING COMPANY
1310 N. 23d St. St. Louis 6, Mo.

REFER—Identify by IEN - 2505 if you write the maker

Send for Free Book

Wirebound Box Manufacturers Nat'l Room 1427 Borland Bldg Chicago 3, Ill.

REFER—Identify by IEN - 2506 if you write the maker

PRESS . . Motor driven machine to bend, blank, form, 35 and 45 ton

Source: CYRIL BATH CO.
6935 Machinery Ave., Cleveland 8, Ohio

Speed is 80 strokes per minute for this new machine. It is available in capacities of 35 and 45 ton with length of bed and ram subject to specification between 3 and 10 feet. Standard die space is 12 inches. Ram adjustment is 3½ and 5 inches. Throat depth is 6½ and 8 inches. The assembly includes the company's standard design of electrically-actuated pneumatic clutch and brake. The illustration shows the 35-ton machine with its 42 by 15-in. bed.

REFER—Identify by IEN - 2507 if you write the maker

FLOORS . . Resurfacing material, plastic base, for solid wood floors

Source: MONROE CO.
10701-5 Quebec Ave., Cleveland 6, Ohio

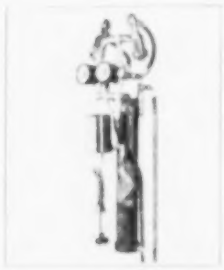
Suited also for concrete repair

Rezilo is a new plastic resurfacing material that is supplied ready for application in 5- to 55-gal. containers. The material is spread and thoroughly tamped or pressed into place to present a smooth surface. It is ready for traffic as soon as the application has been completed. The application is ⅛ to ⅜ in. in thickness over considerable surfaces, may be as thick as 1 in. in patching work. List price is about $2.20 per gal. in 50-gal. quantities.

REFER—Identify by IEN - 2508 if you write the maker

HUMIDIFYING . . Spray head assembly and control, three sizes to 3 gph.

Source: PAASCHE AIRBRUSH CO.
1948 Diversey Parkway, Chicago 14, Ill.



New assembly of standardized parts from the company's lines of spray-painting equipment is available to atomize liquid into the air for humidifying purposes. The assembly includes a liquid reservoir, air and water connections, regulators and pressure gages to two spray heads, and a humidistat control. Mounting is normally overhead in a space to be served. Atomizing action is by connection to a shop source for compressed air at 30 pounds. Air enters through regulators.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

REFER—Identify by IEN - 2509 if you write the maker

CUT COSTS WITH COMPLETE UNDERCARRIAGE ASSEMBLIES

Eliminate the time and labor wasting of buying and assembling separate parts to build a makeshift undercarriage.

Get precision engineered undercarriage construction, ideally suited for your individual transport needs.

Let us analyze your requirements and send you an engineering recommendation for your portable equipment.

For Portable
- AIR COMPRESSORS
- PUMPS • HEATERS
- WELDING UNITS
- CONCRETE MIXERS
- SPRAYERS
- SPREADERS
- PORTABLE TANKS
- PAINTING EQUIPMENT
- FARM AND ROAD MACHINERY
- BOAT TRAILERS
- LIVESTOCK BODIES
- AIRPORT AND PUBLIC UTILITY EQUIPMENT

FAYETTE
Precision Built
UNDERCARRIAGES

Write for information on straight axle steering assembly

FAYETTE MANUFACTURING COMPANY, 300 FRONT STREET, FAYETTE, OHIO

REFER—Identify by IEN - 2510 if you write the maker

FOR LEAKPROOF PIPE JOINTS

USE
Plasgon

The flexible pipe joint cement.

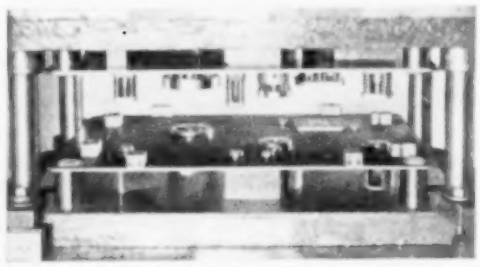
- **Easy to apply** . . . goes on right from the tube.
- **Permanently flexible** . . . unaffected by shock or jarring.
- **Proof against oil**, gasoline, kerosene, water, steam.
- **Resists heat** up to 550° F. and considerable pressure.

FREE SAMPLE of Plasgon and complete information. Write today.

Samuel Cabot, Inc.

128 Oliver Bldg., Boston 9, Mass.

REFER—Identify by IEN - 2511 if you write the maker



● Magnetic Perforating Die set-up in small inclinable punch press

Magnetic PERFORATING DIES

NEW and FAST
Method for perforating Sheet Metal

SAVE PRESS DOWN TIME. Approximately 15 minutes required to change from punching one subject of say 20 holes to a different 20 hole arrangement. Whistler Magnetic Perforating Dies increase press production.

HOLD CLOSE TOLERANCES. Hole centers may be held to .0005" accuracy or as close as can be ing bored.

GREATER PUNCH AND DIE LIFE. Concentricity of punch and die seated thus giving uniform clearance around punch, increasing punch and die life.

SAVE FLOOR SPACE. Die storage cut to a minimum because only the 2 locating templets are stored . . all that is required to duplicate the set-up.

● Die retainers complete with bushings being inserted in die templet

REDUCE DIE COSTS. Whistler Magnetic Perforating Punches and Die units are used repeatedly for different hole arrangements. When completing one job, remove all unnecessary templets and put them into service on the next different setup. Economize on number of hole sizes and shapes. Punch and die units are interchangeable and can be used in many jobs.

Write for Catalog . . . Whistler Magnetic Perforating Punches and Dies have proven their cost-cutting advantages in many prominent plants. The catalog shows how. Send for it today.

S. B. WHISTLER & SONS, Inc.
734 MILITARY ROAD, BUFFALO 17, N. Y.

Also manufacturers of a complete line of drawing, forming, blanking and progressive dies to special requirements.

▼ BRIEFITS—Identify by IEN - 2513 if you write the maker ▼

it's paper

BUT IT'S STRONGER WET THAN DRY!

RIEGEL PAPER CORPORATION • 342 Madison Avenue, New York 17, N. Y.

Riegel

• TAILOR MADE PAPERS FOR INDUSTRIAL USE •

▼ BRIEFITS—Identify by IEN - 2514 if you write the maker ▼

New **POCKET COMPARATOR** saves you time and money inspecting small parts . . .

HERE'S WHAT IT IS

HERE'S WHAT IT DOES

Tool Room and Production Use:

General Use:

a product of BELL & HOWELL CO.

Write for FREE description folder

NATIONAL TOOL CO.
11220 Madison Avenue Cleveland 2, Ohio

▼ BRIEFITS—Identify by IEN - 2515 if you write the maker ▼

A SINGLE UNIT DOES TWO BIG JOBS!

Conoairpak

1. REGULATES
2. FILTERS

AIR SUPPLY FOR INSTRUMENTS AND OTHER SERVICE

WRITE TODAY FOR BULLETIN FR-15

CONOFLOW CORPORATION
2700 Arch St., Phila. 3, Pa.

Conoflow Controls

▼ BRIEFITS—Identify by IEN - 2516 if you write the maker ▼

GRINDING . . Surface machine 18 in. wheel, 36 in. hand feed table

Source: ABRASIVE MACHINE TOOL CO.
47 Dexter Road, East Providence 14, R. I.

Horizontal spindle in this new Fairgrinder is equipped with a 15-hp. motor for operation at 900 rpm. The spindle is mounted in the motor on preloaded ball bearings. The motor is totally enclosed, heavy duty. The rotor is assembled solidly on the machine base.

The table measures 13 by 36 in. and is mounted on a knee and saddle for 24 in. of longitudinal travel, 4½ in. of cross travel and 7¼ in. of vertical adjustment. All movements are by handwheel and capstan.

The assembly includes a 30-gal. coolant tank and motor-driven pump, adjustable water guards and piping for coolant circuit elimination. Accessory equipment including magnetic chuck, ring or segment wheel chuck, special fixtures can be specified. A motorized pulley grinding attachment is available also to grind the rim on circular work that is free from external projections.

Bulletin F, 4 pages, illustrations, descriptions, work area capacity chart, typical application data, specifications.

▼ BRIEFITS—Identify by IEN - 2517 if you write the maker ▼

THREADING . . Three spindle machine feeds taps up through work fixtures

Source: D. H. PRUTTON MACHINERY & TOOL CO.
5293-97 W. 130th St., Cleveland 11, Ohio

Tapmaster 40 is a new machine in the company's line of multiple spindle tapping equipment. The new design differs from the one previously described IEN-1009-44 in the use of collapsible taps in the place of solid ones. Resulting production rate is 500 pieces per hour compared to the previous maximum of 300 when each tap had to be reversed for perception. Thread diameter range of the new equipment is ¼ to 1 inches.

▼ BRIEFITS—Identify by IEN - 2518 if you write the maker ▼

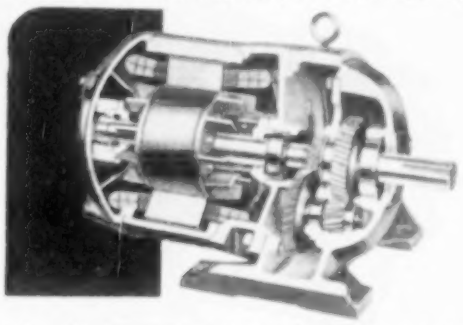
REAMING . . Instruction wall chart on how to use and resharpen carbide reamers

Source: Carbide & Tools Inc., Hartford, Ct.

Speeds and feeds for the materials types stock removal Eighty suggestions on how to eliminate chatter, instructions on how to reduce cutting side, are contained in new 11 by 16 in. "Reaming Instruction Chart." Drawings show sharpening, accompanied by a table of dimensions and angles.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

▼ BRIEFITS—Identify by IEN - 2519 if you write the maker ▼



FOOTE BROS.–LOUIS ALLIS

WRITE FOR BULLETIN G M A ON FOOTE BROS. LOUIS ALLIS GEARMOTORS

Gearmotors

offer new compactness in design — improved efficiency in operation — longer life. Available in single, double and triple reductions.

Compact in design with sturdy cast housings. Precision helical gears have file-hard tooth surfaces and tough, resilient cores, giving long wear life and maximum load carrying capacity.

Foote Bros. Gear and Machine Corporation
Dept. IEN, 4545 S. Western Blvd.
Chicago 9, Illinois

FOOTE BROS.

▼ BRIEFITS—Identify by IEN - 2520 if you write the maker ▼

ASK YOUR **VICTOR** DISTRIBUTOR ABOUT

VICTOR molyflex 1018-006

THE NEW *molyflex* High Speed HAND HACK SAW BLADES

Your Victor distributor will tell you that this new "Molyflex" . . . when pitted against eight leading competitive blades in cutting around SAE 8/1095 ball bearing steel . . . averaged 73.8% more metal cut than all the leading brands used. He will tell you that this new "Molyflex" . . . an addition to the Victor line . . . has greater uniformity, is absolutely shatterproof and unbreakable when used in a frame.

VICTOR STEELRITE METAL MARKING CRAYONS

Ask your Victor distributor about the new Victor Steelrite Metal Marking Crayons. Available in a variety of sizes, these crayons are made of genuine soapstone. Special extrusion process insures uniform strength and composition. Markings can be made on hot, cold, damp or grimy metal and withstand pickling, yet do not affect enamel application.

Don't forget to ask for a free copy of the Victor Metal Cutting Booklet for your pocket or your kit and the Victor Wall Chart for your shop. They'll help you get the maximum efficiency from your metal cutting saw blades.

VICTOR
SAW WORKS, INC., Middletown, N.Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames and Band Saw Blades

▼ BRIEFITS—Identify by IEN - 2521 if you write the maker ▼

more powerful, more compact lightweight drills

Here is the answer to the rapidly growing demand for shorter, less bulky, high output drills. Incorporating the very latest in design and engineering principles, Millers Falls new, close coupled No. 4 38 ⅝" Heavy Duty and No. 512 ½" Standard are only 14" overall — 11" when spade handle is removed. They are light, too — 9½ lbs. — yet they have all the power and stamina needed for continuous production work. Write today for complete details and name of your nearest Millers Falls distributor.

MILLERS FALLS TOOLS

MILLERS FALLS COMPANY
Dept P., GREENFIELD, MASSACHUSETTS, U.S.A.

▼ BRIEFITS—Identify by IEN - 2522 if you write the maker ▼

OUT OF 1001 TEST TUBES

The Chicago Mounted Wheels you use today look deceptively simple — abrasive wheels mounted on steel shanks, but these little wheels are the result of more than 50 years of know-how and more than 1001 tests to determine the most exactly perfect combination of grain, grade, bond, shape, shank length and steel analysis to do each job.

FORWARD LOOKING IS THE WORD

Use Chicago Mounted Wheels, the first wheels ever to be imported on Swedish steel, thanks-to-Hitler's Fund.

AND—the same expert craftsmanship that has made Chicago Mounted Wheels the most widely used in industry today accounts for the outstanding results you get with Chicago Grinding Wheels and Tool-Off Wheels.

Write for Free Catalog

FREE ENGINEERING SERVICE . . . we can help with your grinding problems. Send for Engineering Data Sheet, making it easy for you to submit information from which we can recommend the wheel to do your job best.

CHICAGO WHEEL & MFG. CO.
1101 W. Monroe St., Dept. E1, Chicago 7, Ill.
☐ Send Engineering Data Sheet ☐ Send Catalog

Name

Address

▼ REFFITT—Identify by IEN - 2523 if you write the maker ▼

SMOOTH AS A GUN BARREL!

SUPER FINISH BORE ON UNIVERSAL DRILL BUSHINGS LENGTHENS BUSHING LIFE. REDUCES TOOL BREAKAGE

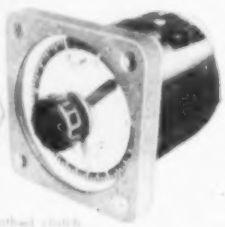
To super finish I. D., add such plus features as blended radius, knurled head, I. D. break, chamfered O. D., and you have the reasons why Universal Drill Bushings are specified by many of America's leading manufacturers. Universal provides extra prompt sectional delivery and information from warehouses at 1060 Broad Street, Newark, N. J., and 5015 Sixth Ave., Kenosha, Wis. Write, call or wire today.

UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICHIGAN

▼ REFFITT—Identify by IEN - 2524 if you write the maker ▼

New! Small, Dependable **INDUSTRIAL TIMER**

BAGLE Cyclo-Flex



- ELAPSED TIME INDICATOR
- SEALED WINDOW PROTECTS DIAL AND POINTERS
- ENCLOSED MECHANISM
- FLANGE FOR PANEL MOUNTING

Dials available from 30 seconds to 10 hours

- Positive action insured by toothed clutch.
- Accurate Timing provided by Synchronous motor.
- Auxiliary contacts on clutch actuated offset eliminate separate relays.

AN EAGLE TIMER FOR EVERY TIMING PROBLEM

EAGLE SIGNAL CORPORATION Davenport, Illinois

▼ REFFITT—Identify by IEN - 2525 if you write the maker ▼

Remove SCALE, PAINT, RUST Quickly . . . Easily

USE AURAND CLEANING TOOLS

It's easy to remove paint, scale, rust and other accumulations with AURAND Cleaning Tools. Powered rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For further information, address Dept. 649

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

▼ REFFITT—Identify by IEN - 2526 if you write the maker ▼

FILTERING . . Stand mounted disc unit with liquid cylinder and pressure inlet

Source: ERTEL ENGINEERING CORP.
16-20 Front St., Kingston, N. Y.

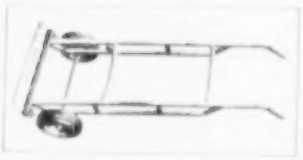
A filter disc 4½-in. in diameter clamps between the bottom flanges on this new Model 10 laboratory equipment and presents 9.62 sq. in. of effective area for passage of the liquid held in the 45-oz. glass cylinder forming the filter body. At the top is a fill opening, a connection to apply air pressure or liquid pressure and a gage reading to 60 pounds.

Assembly is in adjustable height on a support stand. Overall height is 27 inches. Capacity is 1.3 liters. Materials of construction are stainless steel, hard rubber or brass that is nickel or silver plated.

▼ REFFITT—Identify by IEN - 2527 if you write the maker ▼

TRUCK . . Two wheel hand unit, tubular steel frame, pneumatic tires

Source: HAMILTON CASTER & MFG. CO.
1664 Dixie Highway, Hamilton, Ohio



New truck has been designed particularly for appliance handling. It has a frame made of 1-in. steel tube, a nose 24 in. in width. In addition to the regular 10 by 3.50 pneumatic tired wheels there are two small guide wheels to assist in loading and moving operations. The main wheels are mounted on roller bearings. Overall dimensions are 60 by 20 inches. Hand grips are integral with the frame.

▼ REFFITT—Identify by IEN - 2528 if you write the maker ▼

PROTECTING . . Plastic coated glove water proof and resistant to chemicals

Source: MODERN METHODS CO.
12390-94 Ohio St., Detroit 4, Mich.

Lastic Plastic trade names new plastic-coated cotton work glove that is characterized by its pliability, by the fact that it is waterproof and by its ability to resist attack by acids, alkalis, oils and many chemicals. At the same time its excellent abrasion resistance suits it for handling materials such as brick, concrete, castings, pipe. The coating is permanent, will not peel from the Sof-cloth cotton glove material.

Three types include knit wrist, band top and gauntlet. List price in lots of 1 doz. to 11 doz. is $7.95, $9.85, $11.25 per pair.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings . . See Page 58

▼ REFFITT—Identify by IEN - 2529 if you write the maker ▼

NEW! FEATHER WEIGHT BANTAM SOLDERING IRON

PATENT PENDING

AT LAST! As iron so light, so well balanced its weight is hardly noticeable. When you pick it up, when you work with it, you'll know why HEXACON calls it FEATHER WEIGHT. It's the perfect iron for long, delicate work where fatigue works against quality. It can work for you . . . improving, and speeding production. More comfortable and practical than a pencil iron. No transformer required. Price only $5.00.

HEXACON MODEL 30N

HEXACON ELECTRIC CO.
151 W. CLAY AVENUE
ROSELLE PARK, N. J.

HEXACON

▼ REFFITT—Identify by IEN - 2530 if you write the maker ▼

SOLDERING IS A CINCH

When You Know These SIMPLE TRICKS!

New 20-page handbook of professional soldering. Covers time-saving methods—DO's and DON'T's—difficult operations—fluxes and solders. No hard studying, no technical talk, every point made clear by easily-understood illustrations. Not a catalog. The pocket reference book you've been wanting. Send 10c in coin.

When you send for your Guide to Easy Soldering, be sure to ask about new Weller Soldering Guns. They're a handful of soldering convenience—better from tip to grip.

WELLER MANUFACTURING COMPANY
823 Packer Street • Easton, Pa.

▼ REFFITT—Identify by IEN - 2531 if you write the maker ▼

NEW... *Extremely sensitive* **PRESSURE & VACUUM** *Switches*

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-11 psi and adjustable on-off differential from .1" wc.10" wc. They may be furnished as enclosed, moisture-type or specially-finished for snow-driver adjustment.

Electrical ratings of 125, 250 V AC between 1200 watts and pilot duty, depending on differential. The Vacuum Switches offer adjustable ranges from 20" - 0 hg vac with adjustable on-off differential from .1" wc.10" wc. Furnished as enclosed moisture-type or specialized with snow driver adjustment. Electrical ratings of both models 1200 watts or 125/250 V AC.

Special models available for requirements not included in the specifications above.

Write for new Bulletin 4926 F giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY
90 School Street
Watertown, Mass.

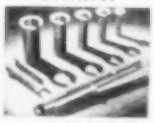
STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▼ REFFITT—Identify by IEN - 2532 if you write the maker ▼

Adjustable **GLENNY BROACHES**

FOR PRECISION KEYWAY CUTTING

BROACHES



ADAPTERS

COMPLETE KIT

GLENNY push broaches are available from stock in sizes ranging from 3/16" to 2" in increments of 1/16". Interchangeable blade widths can be furnished for each size broach. Adjustment for depth of cut is infinitely variable. Tooth design provides large chip chamber and maximum cut.

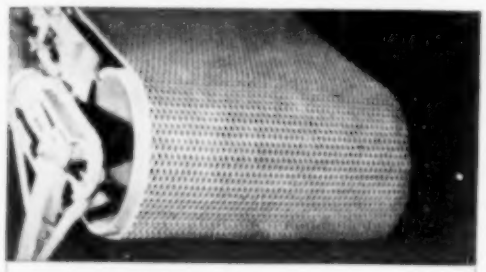
Eccentric adapters permit use of standard GLENNY broaches to cut accurate keyways in bores larger than broach diameter. New tapered adapters facilitate keyway cutting in tapered or straight bores. Adapters are available individually or in complete sets.

GLENNY broach kits are complete packaged units. Each kit contains specified standard size broach, interchangeable blades, and bushing type adapters which permit keyway cutting in six different diameter bores. Steel carrying case with wood insert for tool protection is included.

WRITE FOR BULLETIN NO. 12

KASE MACHINE CO.
18523 Buffalo Avenue Cleveland 19, Ohio

▼ BREVITY—Identify by IEN - 2533 if you write the maker ▼



Gum Drops and Glass RIDE SAFELY ON WISSCO BELTS

Wissco Belts carry such varied products as food, metals and glass safely through processes of extreme temperatures. Designed to resist abrasion or corrosion, Wissco Belts are custom-engineered for long, dependable wear.

Wissco Belts are made in widths from 1" to 192", in any length, of any metal that can be drawn into wire.

Write for our catalog showing Wissco Belts, their use and application.

WISSCO METAL CONVEYOR BELTS
A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL AND IRON CORPORATION

Sales Office and Plant — 18 Sterling Street, Clinton, Massachusetts
Executive Office — 500 Fifth Avenue, New York 18, N. Y.
Sales Offices — Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast — The California Wire Cloth Corporation, Oakland 6, California

▼ BREVITY—Identify by IEN - 2534 if you write the maker ▼

CUT COSTS
HELP YOUR WORKERS
SEE FASTER EASILY ACCURATELY
LOCALITE THE VITAL SEEING ZONE

Fast, accurate workmanship takes good "seeing" tools—localized lighting. On precision tasks like machining, assembly, and inspection, the seeing tools must provide both ample *illumination* and *flexibility* in position so the worker can direct the right illumination exactly as needed for his particular seeing requirements.

Only with Localites can this high efficiency of illumination be obtained for the vital seeing zone of each worker's task. Thousands of industrial plants have found Localites the economical, sure way to get more and better production — at lower cost.

LOCALITES are available in a selection of 40 models with various type reflectors, arms and bases for every industrial need.

MODEL 2267-H-174
Reflector finishes S-W-G-W. Takes 100 watt A-21 medium screw base lamp. Double arm with 1 swivel, adjustable joints. Overall length, 57 1/2". Walnut gray enamel finish. For ceiling base. Wire with 8 ft. cord and cord switch.
$5.56 EACH in qty. of 6. Single units $6.95 ea.

MODEL 3470-P-172
Reflector polished S-W-G-W. Takes 100 watt A-21 medium screw base lamp. Double arm with 2 swivels, adjustable joints. Overall length, 47 1/2". Walnut gray enamel finish. For ceiling base. Wire with 8 ft. cord and cord switch.
$6.52 EACH in qty. of 6. Single units $8.15 ea.

NEW SENSATIONAL
Sten-X-Lite
Fluorescent lamp reflector spreads adequate but uniform illumination directly on the seeing work area of any machine, desk or table. Lamp shield holds the fluorescent lamp in other uses. Note reflector protects eyes, cools work. Reversible, hooded or ceiling type models. Uses T-12, 24 watt fluorescent lamp.
Complete nickel lamp Only $9.90

BALANCED LIGHTING **fostoria** GENERALITES • LOCALITES

• Write for free booklet on "Balanced Lighting" and complete catalog of General and Localite models.

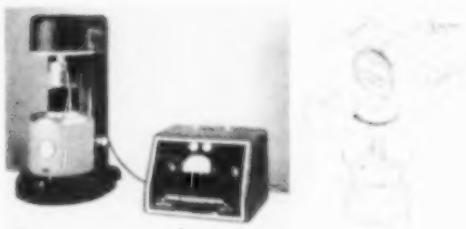
THE FOSTORIA PRESSED STEEL CORP.
FOSTORIA, OHIO, U.S.A.

Localites are available through selected distributors elsewhere.

▼ BREVITY—Identify by IEN - 2536 if you write the maker ▼

TESTING . . Viscosity meter reads to 5,000 centipoises directly

Source: FISHER SCIENTIFIC CO.
715-19 Forbes St., Pittsburgh 19, Pa.



Electroviscometer is a new motor-driven, constant-temperature instrument that employs an adjustable electric circuit through a coil to balance shear effect in a liquid and so provide a reading of viscosity in centipoises. Readings are accurate within 1 per cent. List price is $325.

The instrument consists of a stand assembling the coil in a magnetic field, a ventilating fan to keep the coil cool, a bobbin connected at the bottom of a shaft extending downward from the coil, a motor-driven sample cup surrounding the bobbin and a constant-temperature bath that can be raised to surround the cup during a test cycle.

Setting this assembly is a power unit with a selector knob for intermediate steps in the overall range, a control knob to adjust balancing current to the coil, two signal lamps to indicate limits between which the current is adjusted and a meter that reads in direct centipoises.

A test sample of liquid is filled into the cup which is then clamped into its motor-driven head surrounding the bobbin, the constant-temperature bath is raised to position and the motor is started. It is synchronous design for constant-speed operation. Cup rotation carries the liquid around with it, tends to also rotate the bobbin which turns the coil in the magnetic field. The tendency to turn is counteracted by adjusting the current to it. The meter is read at this point.

▼ BREVITY—Identify by IEN - 2537 if you write the maker ▼

THERMOMETER . . Resistance element is adhered to surface for readings

Source: RUGE-deFOREST INC.
74-78 Massachusetts Ave., Cambridge 39, Mass.

Type PN-1 and **PN-2** have been added to the company's Type RS-1 RdF 30 ohm thermometer element previously described, IEN 801-48. Each is made of a grid of fine nickel wire bonded into a nitrocellulose cement and paper wafer for attachment to a surface by Duco or other suitable adhesive.

Electrical resistance changes in the grid with change in temperature and this is employed to actuate an electric thermometer or to provide for automatic control. Both types are accurate in a range between minus 100 and plus 250 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2539 if you write the maker ▼

HILCO for Lubricating, Fuel and Industrial Oil Purifying . . To save oil, equipment and money

There is a HILCO unit available for every type of oil purifying problem.

When oil is used it becomes contaminated and is HILCO will clean it. Tell us what your oil purification problem. FREE literature will show you how to solve them.

THE HILLIARD CORPORATION
43 WEST FOURTH ST., ELMIRA, N. Y.
Offices in Pittsburgh, Ottawa — In Canada: UPTON-BRADEEN-JAMES, LTD. 200 Bay Tower, 1255 Park Ave., Montreal

▼ BREVITY—Identify by IEN - 2540 if you write the maker ▼

Wire Forms Finished TO YOUR SPECIFICATIONS

• Now, Sommer is equipped to handle your wire forms—in a wide variety of attractive finishes.

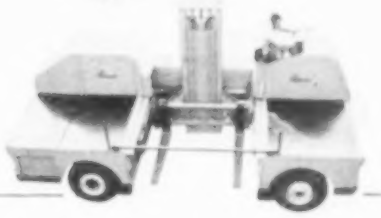
We have installed fast, automatic nickel-plating equipment for either large or small assemblies. Also, if you want cadmium or zinc plating, bonderized enamel, parkerized or copper-coated finishes—you can count on Sommer.

Complete forming, stamping, cut-threading and fusion welding of light metal parts are also among our services. Whatever your problem, you can save time and money if Sommer handles the *complete* job. Just send sample, blueprint or drawing.

SOMMER METALCRAFT CORPORATION
(Formerly HISCHOFF Wire and Specialty Company)
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▼ BREVITY—Identify by IEN - 2538 if you write the maker ▼

Greater **Pay Load** Per Operator



...because it loads itself from the side

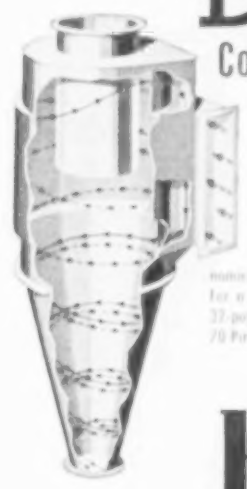
• One man equals three—one machine equals several—when you lift, load, unload, stack, haul with the amazing Traveloader! Hydraulically-operated, side-loading elevator lifts loads to 10,000 lbs., deposits material heightwise on the Traveloader platform. Complete loading cycle—only 20 seconds. Hauls at speeds to 30 mph—stacks from ground level to 12 feet high. Handles steel, lumber, pipe, poles, spooled cable—industrial materials of all kinds. Many other uses and features. Get full details now.

LULL Traveloader

LULL MANUFACTURING CO. • 5616 E. 40th ST. • MINNEAPOLIS 6, MINN.

▼ BREVITY—Identify by IEN - 2541 if you write the maker ▼

Want the Answers on **Dust** Collection and Recovery?

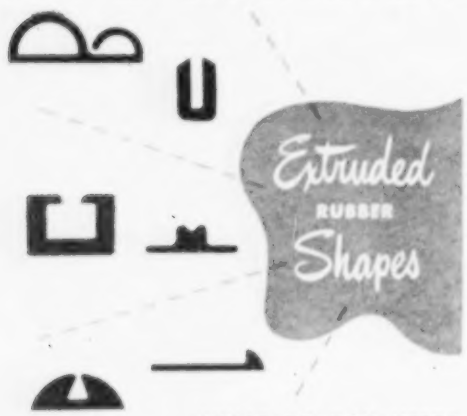


Every industrial engineer should know about the patented von Tongeren "throw-off". Exclusive in the Buell dust collection system, it makes possible dust collection that is efficient yet economical. Buell design eliminates plugging. For a full description, write for the new 32-page catalog to: Buell Engineering Co., 70 Pine St., Suite 5030, New York 5, N. Y.

buell
Engineered Efficiency in DUST RECOVERY

Manufacturing in the U. S. & Canada for Shipment Throughout North & South America

▼ BREVITY—Identify by IEN - 2542 if you write the maker ▼



WHAT DO YOU NEED?

We have a multitude of dies available to meet your requirements. Designs shown are but a few in our large and varied assortment. Lowest possible cost per unit. Send specifications *today*.

FREE 44 page catalog

Illustrates and describes complete LAVELLE line machine oil and industrial rubber specialties. Request your copy today.

Take It Up With

LAVELLE *Rubber Company*

1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

▼ BREVITY—Identify by IEN - 2543 if you write the maker ▼

DEODOROMA

"I make this washroom a pleasant place"

Your premises are often judged by the condition of your lavatories. Foul, stale odors can't be excused when about 2 cents a day can produce CONSTANT, PLEASANT, EFFECTIVE DEODORIZATION.

The DOLGE DIFFUSEUR marks the thoughtfully maintained lavatory. This sturdy chromium or plastic "sentinel of smells" requires rest to its attention. Merely place a DEODOROMA stick (still only at about every 90 days). Then there'll always be a fresh, fragrant atmosphere where it's needed most.

Your choice of three delightful DEODOROMA scents—Rose, New Mown Hay and Ced-O-Sae.

For SPOT DEODORIZATION

Use DEODOROMA CRYSTALS in any of the above scents. DEODOROMA URINAL BLOCKS, in Ced-O-Sae only.

CONSULT YOUR DOLGE SERVICE MAN OR WRITE FOR FOLDER EDJ-1044

The C. B. DOLGE CO.
WESTPORT, CONNECTICUT

▼ BREVITY—Identify by IEN - 2544 if you write the maker ▼

The Lyons Chronometric Hand Tachometer is designed to provide exceptionally precise measurement of constant rotary and linear speeds.

Produced in two types, 0 to 1000 RPM and 0 to 10000 RPM, graduated in 1/5 RPM and 2 RPM subdivisions respectively, the Lyons has an overspeed allowance of 100%, is durable and entirely trustworthy.

BOULIN INSTRUMENT CORPORATION
PORTABLE AND STATIONARY CENTRIFUGAL TACHOMETERS
PORTABLE CHRONOMETRIC AND STROBOSCOPIC TACHOMETERS
65 MADISON AVENUE, NEW YORK, N. Y.

▼ BREVITY—Identify by IEN - 2545 if you write the maker ▼

MOTOR . . With magnetic brake for quick stop, ratings ½ to 100 hp.

Source: STAR ELECTRIC MOTOR CO.
202 Bloomfield Ave., Bloomfield, N. J.

New design is illustrated for the company's Brakemotor, initially developed twenty-five years ago to provide for quick stop by spring action on friction discs when the motor circuit is opened. The friction-disc assembly has been brought close to the end housing to minimize overhang; the magnets that hold the brake released when the motor circuit is closed have been moved back for heat dissipation; the springs on the motor studs are accessible for adjustment. A new cover can be removed quickly.

The motor is available for a.c. and d.c. operation in standard NEMA frames 151 to 505 with standard mounting dimensions for these frames. The brake is an integral part. Shaft sizes are standard NEMA dimensions for the frames named. Continuous torque rating is 1½ to 300 foot pounds. Intermittent rating is 2¼ to 450 foot pounds. The brake assembly is in seven basic sizes depending upon motor rating.

▼ BREVITY—Identify by IEN - 2546 if you write the maker ▼

STORING . . Steel cabinet assembles drawers of various sizes

Source: MODEL BOX & CABINET CO.
203-7 W. Wacker Drive, Chicago 6, Ill.

Six and eight drawer assemblies have been added to the company's steel storage cabinet previously described (IEN-2506-8). One contains six drawers, measuring 2¼ and 2½ in. in depth. The other contains eight, measuring 2¼ and 1⅞ in. in depth. Each drawer is fitted with a 12-section divider. Overall dimensions are the same as in the previous unit, 16½ by 10 by 8 inches. Finish is in brown Hammertone.

▼ BREVITY—Identify by IEN - 2547 if you write the maker ▼

PUMPS . . Question and answer book on centrifugal, turbine, rotary, reciprocating pumps

McGraw-Hill Book Co.
330 W. 42nd St., New York 18, N. Y.

Six engineers from Worthington Pump and Machinery Corp. wrote new 200-page book, "Pump Questions and Answers," list price $5. It covers construction, application, operation, installation and maintenance of centrifugal, vertical-turbine, regenerative, rotary and reciprocating pumps. A specific question is stated, then answered by text accompanied by drawings, photographs and performance curves.

All Makers of These and All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 88

▼ BREVITY—Identify by IEN - 2548 if you write the maker ▼

SPEED BUNDLING for further handling or storage with

PULL FASTENERS

S

FAST • EFFICIENT • DURABLE

FLAT WEB OR LOOP TYPES

THE *Schlegel* MFG. CO.
277 NO. GOODMAN ST., ROCHESTER 7, N. Y.
SCHLEGEL CO., CANADA LTD., OAKVILLE, ONT., CANADA

▼ BREVITY—Identify by IEN - 2549 if you write the maker ▼

• Save Money, Floors, Equipment and Time by using DARNELL Casters

Pre-tested for Performance

DARNELL CASTERS

Free Manual

DARNELL CORP. LTD.
Long Beach 4, Calif.
60 Walker St., New York 13, N. Y.
36 N. Clinton, Chicago 6, Ill.

▼ BREVITY—Identify by IEN - 2550 if you write the maker ▼

USE STRONG STRAINERS -for *better* protection!

For steam, air, water and gas, STRONG's new "Y" type strainer is ideal for the protection of steam traps, reducing valves, temperature controls, air control equipment, pumps, etc.

A HIGH-QUALITY, LOW-COST STRAINER!

- ★ **Monel Screen**—Mesh cloth in sizes ¼" to ⅝", larger sizes standard with .027 perforations. Self-centering guides prevent crushing.
- ★ **Semi-steel Body**—For rugged service. Sizes ¼" to 2". For steam pressures to 250 psi and pressures to 400 psi.
- ★ **Easy Installation**—New "Y" shaped grooving lugs on inlet and outlet bosses may be easily installed with pipe type wrench.

CAST STEEL "Y" STRAINER

Available for pressures to 250 psi, screwed and flanged. Sizes ¼" to 4".

STRONG, CARLISLE & HAMMOND COMPANY
1392 West 3rd Street
Cleveland 13, Ohio

No. 070 Small Trap — 80 Series Trap — "T" Type Strainer

STRONG

▼ PREFIX—Identify by IEN - 2552 (if you write the maker) ▼

Know Your Pressure Vacuum and Differential Readings

DWYER FLEX - TUBE MANOMETERS

FOR

- Velocity and static pressures
- Leakage, fan and blower tests
- Resistance through filters

Featuring

Over Pressure Safety Traps

Shatter-Proof Plastic Tubing

Direct Reading—No Parallax Error

Series 1212 Portable

DWYER Bulletin 171 sent on request

Series 1230 Wall Mounting

F. W. Dwyer Mfg. Co.

807 SOUTH WESTERN AVENUE, CHICAGO 12, ILLINOIS

▼ PREFIX—Identify by IEN - 2553 (if you write the maker) ▼

Hanna Cylinders

. . . SMOOTH, DEPENDABLE

POWER

for 1001 APPLICATIONS

Pneumatic and Hydraulic . . .

There are standard model Hanna Cylinders for many ideal applications in your *plant* and in the machines and equipment you design and build. You'll find that they simplify and improve practically all types of machine control and actuation by eliminating a vast assortment of miscellaneous cams, cranks, screws, levers, etc. Hanna Cylinders operate efficiently and economically to provide the push, pull or lift movements required for the operation.

. . . High and Low Pressure

Hanna Cylinders are available in a selection of sizes, types and mounting styles to meet your exacting requirements. They are designed for operation by air, oil or water and for pressures up to 1500 psi.

There are thousands of Hanna Cylinders now at work throughout industry providing smooth, economical, dependable power for hundreds of applications. It will pay you to find out how Hanna Cylinders can help improve production and machine operation in your plant.

SEND FOR CATALOGS

Hanna Engineering Works

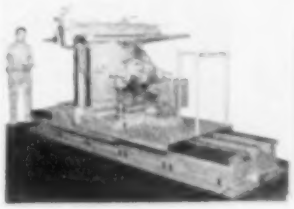
HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES . . . GAUGES

1763 Elston Avenue, Chicago 22, Illinois

▼ PREFIX—Identify by IEN - 2555 (if you write the maker) ▼

SHAPING . . Bed mounted machine, 36 in. stroke, 8 ft. table traverse

Source: CINCINNATI SHAPER CO.
Hopple, Elam & Gerrard, Cincinnati 25, Ohio



The operator rides on the table of this new mechanically shaper and traverse bed. The design approves the work requiring considerably more efficient operation between work and rest than can be provided by the conventional shaper table. The shaper used is essentially standard design in the company's line. It can be adjusted for 8 to 200 strokes per minute. Its tool slide has a 36 in. of vertical adjustment and power feed. Typical applications are shaping cross slots in gears, tools in lines the slow and long uninterrupted surfaces are necessary to know.

▼ PREFIX—Identify by IEN - 2556 (if you write the maker) ▼

PROCESSING . . Non-ionic dispersant shows high surface activity in water

Source: CARBIDE & CARBON CHEMICALS CORP
30 E. 42nd St., Rm. 1213, New York 17, N. Y.

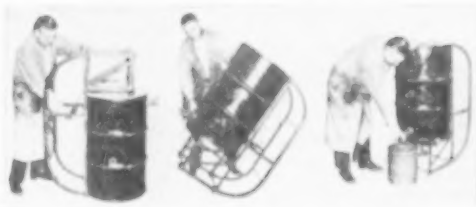
In non-return drums
1 to 55 gallons

Tergital TMN 650 is a new non-ionic polyoxyethylene material, of neutral composition. It has been developed for use as a wetting agent, emulsifier, lime soap dispersant. It enhances the detergent action of soap or hard water by dispersing the calcable cards. It is recommended for treatment of textile hard water, for breaking up petroleum emulsions, for use in detergents, germicides, as a fine wetting agent, as emulsifier for insecticides and fungicides and in various processing compositions.

▼ PREFIX—Identify by IEN - 2557 (if you write the maker) ▼

HANDLING . . Steel drum cradle upends standard drum to pour from side

Source: MORSE MFG. CO.
120-24 Dickerson St., Syracuse, N. Y.



One man can attach this new wheel-equipped cradle to a filled standard steel drum and can upend it, raising the drum 15 in. at the same time, to position it for pouring from the side bung. The cradle is known as the Buck A Drum Vertical Truck. Construction is in angle iron. The wheels are 5 in. in diameter. Steps in operation are shown.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings *See Page 30*

▼ PREFIX—Identify by IEN - 2558 (if you write the maker) ▼

Here's Equipment Built to Stand Up Under Your Production Requirements for

METERED PRESSURE PUMPING

of Such Chemicals as:

SULPHURIC ACID • SODIUM HYDROXIDE
LIQUID CHLORINE • HYDROCHLORIC ACID
SLURRIES • CHLORINATED HYDROCARBONS
HYDROGEN PEROXIDE • NITRIC ACID
HYDROFLUORIC ACIDS • OLEUM • PROPANE
CYANIDE COMPOUNDS • STYRENE • FREON

- NO STUFFING BOX OR RUNNING SEAL
- POSITIVE DISPLACEMENT PISTON MEASUREMENT
- FLOW RATE ADJUSTABLE WHILE IN OPERATION
- MANUAL OR AUTOMATIC CONTROL

Lapp PULSAFEEDER

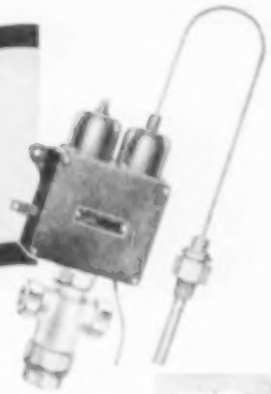
PISTON-DIAPHRAGM CHEMICAL PROPORTIONING PUMP

WRITE for Bulletin 262 with complete description and specifications.

LAPP INSULATOR CO., INC. PROCESS EQUIPMENT DIVISION 279 MAPLE STREET, LE ROY, N. Y.

▼ PREFIX—Identify by IEN - 2559 (if you write the maker) ▼

Diesel Engine Safety Control



The No. 270 Sylphon Diesel Engine Safety Control provides positive protection against high jacket water temperature and low lubricating oil pressures.

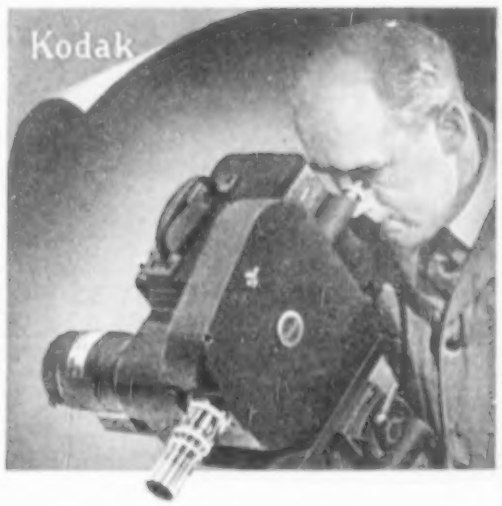
Simple • Self-operated
Non-electric • Moderately priced

For complete information write for your free copy of Bulletin No. TN-81.

FULTON SYLPHON
DIVISION
ROBERTSHAW-FULTON CONTROLS CO. KNOXVILLE 4, TENN.

Temperature Controls • Pneumatic Controls • Pneumatic Assemblies

▼ PREFIX—Identify by IEN - 2560 (if you write the maker) ▼



HOW TO GET A GOOD LOOK AT ACTION TOO FAST TO SEE

Many machine parts move faster than the eye can see. Yet to see that they operate smoothly and have long life, they should be studied in operation under the stress of high speed.

This is the task of the Kodak High Speed Camera. With it you can take up to 5000 clear, still-lighted pictures a second on regular 16mm motion film. Projected at the standard 16 frames a second, this film slows the action at about 1/5000 actual speed.

Such studies have already spotted reasons for excessive wear, noisy operation, vibration, and early part failure. They have pointed the way to better product design and more efficient production methods.

The Kodak High Speed Camera is inexpensive to use. Takes no specialized skill to operate. If you would like to see how it could help you, we shall send you our booklet "Magnifying Time." Use the coupon for full particulars. Just send the coupon.

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.

"Kodak" is a trade mark

Eastman Kodak Company
Industrial Photographic Division
Rochester 4, N. Y.

Please send me your booklet "The Kodak High Speed Camera—Magnifying Time."

Name
Firm
Street
City State

▼ BREFITT—Identify by IEN - 2562 if you write the maker ▼

DEMING Offers A Wide Selection in

SUMP PUMPS

Deming Vertical Sump Pumps are available in capacities from 10 to 1200 gallons per minute for respective heads up to 120 feet and speeds from 860 to 1750 R.P.M. for motor drive.

Deming Sump Pumps can be installed in any type of wet or dry pit; impellers are adjustable for capacity, head and wear; and fitted to tapered shaft with key and nut. Full weight collars with precision thread. Double length bottom shaft bearing with large grease chamber.

Write for BULLETIN 4607 for complete details.

THE DEMING CO. • 521 BROADWAY • SALEM, OHIO

Deming Pumps

▼ BREFITT—Identify by IEN - 2563 if you write the maker ▼

ELECTRICALLY-CONTROLLED

AIR CYLINDER

Complete POWER UNIT WITH BUILT-IN CONTROLS

THE Bellows electrically controlled BSM Air Motor is a complete reciprocating straight line power unit. Performs any pull, push or lift operation at a touch of a button. Built-in speed controls give positive control of piston rod speed in either or both directions. No extra valves to buy . . . no expensive piping to install. Only one air connection required which may be flexible hose. Available in 1¼", 2½", 3⅞" and 4½" bores — any stroke length.

Dept IEN 190

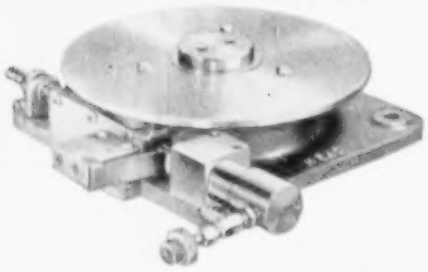
Write for Specification Bulletin BSM

The Bellows Co.
Akron, Ohio

▼ BREFITT—Identify by IEN - 2564 if you write the maker ▼

Air Operated

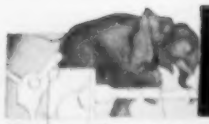
ROTARY WORK FEEDER



Deftly holds and delivers small parts to drill, tap, swage, stake, etc. Stations accurate to .002". Guaranteed against over-travel or "skipping." Delivers as slow or fast as you like, up to 10,000 per hour. Compact and sturdy, easy to tool and hook up.

Standard dial plate 10", available to 12". For a new job, simply tool up a new dial. Readily combines with "MEADMATIC" Timer, Air Hammer, Air Press, Drill Presses, etc. — to make almost complete automatic machine — operator merely loads.

Write for full details.



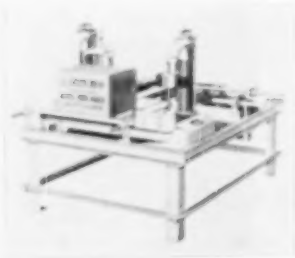
MEAD
SPECIALTIES COMPANY

4114 N. KNOX AVE., Dept. EA-30, CHICAGO 41, ILL.

▼ BREFITT—Identify by IEN - 2565 if you write the maker ▼

MARKING . . Container imprinter rolls inked type on filled paper cases

Source: J. L. FERGUSON CO.
Republic & Troy Sts., Joliet, Ill.



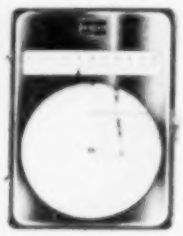
Case Imprinter is a new machine in the company's Packomatic line of automatic packaging equipment to install on the delivery side of the corrugated-paper case-sealing machine. The new unit receives the sealed cases, passes them one at a time between two vertical rolls equipped with rubber type and arranged to receive ink from vertical felt rolls. Passage of the case results in imprinting identification or other matter on opposite faces. A conveyor on the discharge side keeps the machine clear of finished work. Operating speed is to 20 marked cases per minute.

The machine can be set up and adjusted for cases measuring 12 to 28 in. in length, 8¼ to 14¼ in. in width, 3 to 18 in. in height. The type rolls take rubber type measuring ¼ to 1½ in. in height and positions the type for marking in the area between ½ in. above the case bottom and below the top.

▼ BREFITT—Identify by IEN - 2566 if you write the maker ▼

TIMING . . Recording potentiometer for time in process of given work

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 91, Conn.



The varying rate at which work moves through a process is recorded by this new timing instrument in terms of total time-in-process on a circular 12-in. chart. At the same time the rate at any given moment can be read on a traveling pointer above the chart. Actuation is by a magneto connected to a rotating member in the process equipment such as a conveyor roll or sprocket in a heat-treating furnace, baking oven, ceramic kiln, glass tube. Output from the magneto connects electrically to the recorder mechanism which operates as a potentiometer to position the chart pen and the indicating pointer.

▼ BREFITT—Identify by IEN - 2567 if you write the maker ▼

PROTECTING . . Pocket instruction book for company's employees who handle trains

Armco Steel Corp.
701 S. Curtis St., Middletown, Ohio

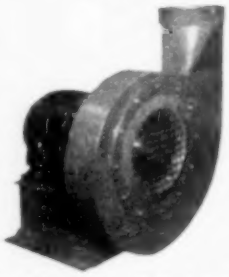
Pictures are used generously in new 32-page instruction book, "Safe Practice Instructions—Railroad Operations" to show right and wrong methods. Text, of course, refers to pictures on the same or facing pages. It is based on the practical experience of railroad men, tells why to do an operation a certain way in addition to the instruction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREFITT—Identify by IEN - 2568 if you write the maker ▼

▼ BREFITT—Identify by IEN - 2569 if you write the maker ▼

Improve Combustion Efficiency
of your
Industrial Gas or Oil Burners
INSTALL
ROBINSON TURBINE TYPE PRESSURE BLOWERS



They are designed for accurate performance and constructed for trouble-free service.

Ask for Bulletin No. 1100

ROBINSON VENTILATING COMPANY
Manufacturers of Fans and Ventilating Machinery for over fifty years
1845 HARMONY STREET
ZELIENOPLE PENNSYLVANIA

▼ BREFITT—Identify by IEN - 2570 if you write the maker ▼

HAISS FOR 57 YEARS BUILDERS OF HIGH QUALITY
Material Handling Equipment

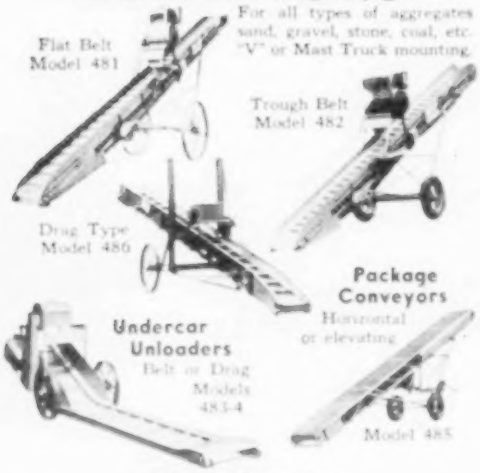
•LOADERS

Self-Propelled Self-Feed

For digging and loading sand, gravel, stone, top-soil, coal, etc. Wheel or crawler mounted. Capacity 3 to 8 yds. per minute.

•CONVEYORS

For all types of aggregates sand, gravel, stone, coal, etc. "V" or Mast Truck mounting.



Sectional Conveyors

Model 487

•BUCKETS

Hi-Power Excavators
Multi-Sheave Rehandlers

Capable Representatives in All Principal Cities

GEORGE HAISS MFG. CO., INC. — PETTIBONE MULLIKEN CORP.
CHICAGO, ILL.

HAISS UNIVERSAL

IEN - 2572

CHAMPION
expanding mandrels
accurate • dependable • economical

General-Service Set
of 5 for a range of ½" to 1"

The WESTERN Tool & Mfg. Co., Springfield, Ohio

IEN - 2573

CAPCO
DOCK COVERS
OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door ... models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times ... saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain ... no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

IEN - 2575

PACKAGING . . Semi-automatic machine handles cartons while operator fills

Source: R. A. JONES & CO.
P. O. Box 485, Cincinnati 1, Ohio

Type CMY ...

Bulletin, ...

IEN - 2576

BRAZING . . Silver alloy preforms made of formed and flattened wire

Source: LUCAS-MILHAUPT ENGINEERING CO.
5055-50 S. Lake Drive, Cudahy, Wis.

Material saving
30 to 52 per cent

The scrap ...

IEN - 2577

VALVE . . Three way pneumatic for control of pressure or vacuum

Source: JOHNS ENGINEERING CO.
4015-19 Payne Ave., Cleveland 3, Ohio

Outlet connection is in the bottom face and inlet and exhaust are at the opposite ends of this new ⅜-in. pneumatic valve. It is plunger design with an operating lever moving through a 120-deg. arc. Greatest length, measured over the body and lever, is 6 inches. The valve body is anodized aluminum. Other metal parts are chromium-plated steel. Sealing members are synthetic oil and gasoline-resistant rubber. They are molded into the plunger.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER ... Descriptions ... Ratings ... See Page 88

IEN - 2578

New di-acro POWERSHEAR

OFFERS CONTINUOUS ACTION *plus* VARIABLE SPEED

From 30 to 200 strokes per minute

for high speed
DIE-LESS DUPLICATING

See Di-Acro Exhibit Booth 316 ... Tool Engineers' Industrial Exposition, Philadelphia, Pa., April 10-14

Send for 40 page "DIE-LESS DUPLICATING" catalog.

O'NEIL-IRWIN MFG. CO.
... Avenue, LAKE CITY, MINN.

IEN - 2579

Add these features of
LEWIS CONTAINERS:

- STACKABILITY
- UNIFORMITY
- KILNDRIED HARDWOOD
- MOLDED CLEATS
- INSET SLATS — SANDED
- RESILIENT WOOD AND WIRE CONSTRUCTION
- REINFORCED CORNERS

EQUALS = SAFETY!

G. B. LEWIS COMPANY
... Watertown, Wisconsin

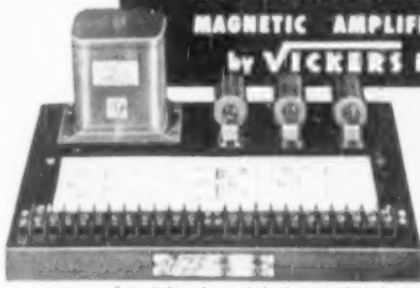
SKID BOXES
STACKING BOXES
SHIPPING BOXES
BOX TRUCKS

LEWIS
INDUSTRIAL CONTAINERS

Also Mfrs. of Airplane Propellers, Bee Ware, Venetian Blind Slats, and Golf Ball Washers

IEN - 2580

NEW EDUCATIONAL MAGNETIC AMPLIFIER by VICKERS Inc.



for School and Industrial Laboratories

Write for information and price.

VICKERS ELECTRIC DIVISION

... LOCUST STREET • ST. LOUIS 3, MISSOURI

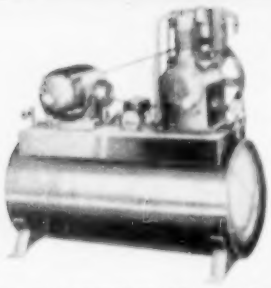
IEN - 2581

JOHNSON "JUNIOR"
MODEL B BAND SAW

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

REFFITT—Identify by IEN - 2582 if you write the maker

SCHRAMM
AIR COMPRESSORS

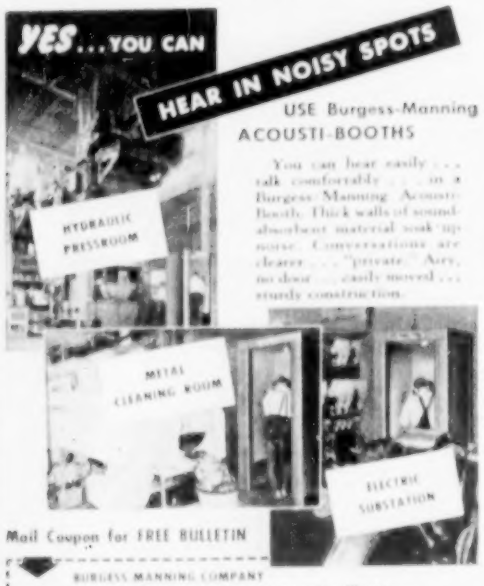


MOTOR DRIVEN COMPRESSOR OR HORIZONTAL TANK

SCHRAMM small industrial compressors are built in sizes ranging from ½ to 5 h.p., single and two stage sizes. Larger size units available in displacements up to 600 cubic feet. Write for Bulletin GC-48.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

REFFITT—Identify by IEN - 2583 if you write the maker



USE Burgess-Manning ACOUSTI-BOOTHS

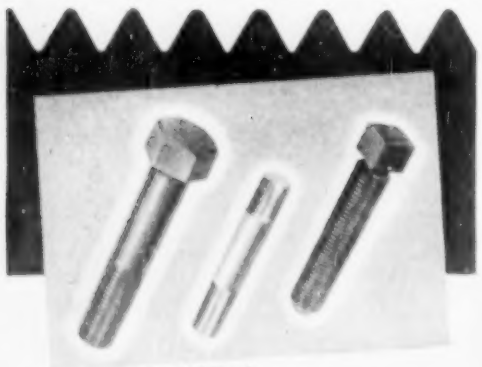
You can hear easily . . . talk comfortably . . . in a Burgess-Manning Acousti-Booth. Thick walls of sound-absorbent material soak up noise. Conversations are clearer . . . "private." Airy, no door . . . easily moved . . . sturdy construction.

Mail Coupon for FREE BULLETIN

BURGESS-MANNING COMPANY
743-A East Park Avenue, Libertyville, Illinois
Please send booklet describing Burgess-Manning Acousti-Booths.

Name
Firm Name
Street
City

REFFITT—Identify by IEN - 2584 if you write the maker



Your *EXTRA* Advantages in specifying CLEVELAND Fasteners:

Extra high manufacturing standards.
Extra wide range of sizes.
Extra fast delivery.
AND EXTRA FINE service to you.

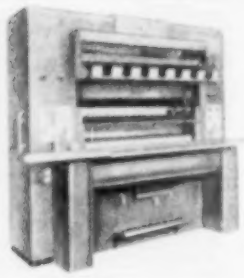
CLEVELAND'S SPECIALIZATION
in Cap Screws, Set Screws, Milled Studs

CLEVELAND *Top Quality* **FASTENERS** — THE CLEVELAND CAP SCREW COMPANY

REFFITT—Identify by IEN - 2585 if you write the maker

PRINTING . . Whiteprint machine exposes and dry develops, to 32 fpm.

Source: C. F. PEASE CO.
2603 W. Irving Park Road, Chicago 18, Ill.

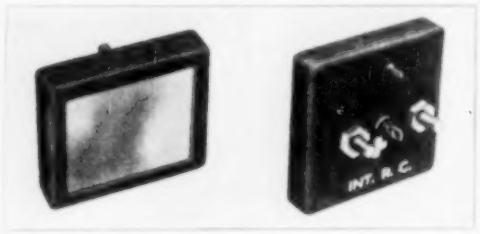


Sensitized paper and any material that has been typed, written or drawn on fairly transparent sheets are fed into this new Photostat . . . one-step for exposure and dry-develop. The unit—operator at an operable speed to 32 fpm. It takes work to 42 in. in width. Typelarge are separated from the prints after exposing, fans and are returned to the front of the machine. The prints pass through a new interlocking outer dryer that will handle any type of flame material without sticking, scratching or wrinkling. Each print is held for complete exposure to the essential paper.

REFFITT—Identify by IEN - 2586 if you write the maker

ELECTRONIC PRODUCTS . . Photocell, hermetically sealed selenium design

Source: INTERNATIONAL RECTIFIER CORP.
6807-11 S. Victoria Ave., Los Angeles 43, Calif.



Active area is about 2¾ sq. in. in this new unit which is sealed into a housing that measures 2 by 2 by ¼ inch. Two insulated mounting screws and the connection terminals are located on the rear face. Average current sensitivity is 100 microamperes at 100 foot candles with a 10-ohm external circuit resistance. The housing is made of brass. The glass face is sealed to it using a glass-to-metal alloy.

REFFITT—Identify by IEN - 2587 if you write the maker

COMMUNICATING . . Book on facsimile describes this method of electrical communication

Murray Hill Books, Inc.
232 Madison Ave., New York 16, N. Y.

Definition of facsimile as the electrical transmission of still images starts this 200-page book. "Facsimile" list price $6 (price to Charles R. Jones, Development Engineer with Finch Telecommunications, Inc.). The book describes what facsimile is, the history, how it works, eight pages for more experienced reading.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

REFFITT—Identify by IEN - 2588 if you write the maker

REFFITT—Identify by IEN - 2589 if you write the maker

NO MORE hacksawing drudgery that everybody hates.

NOW!

HAND-I-HACK

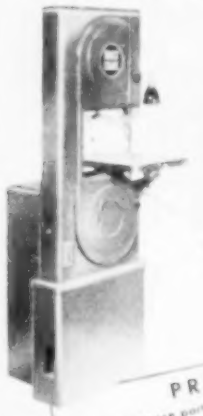
PORTABLE POWER HACK SAW

Trade Mark Reg. U. S. Pat. Off.

Hand-I-Hack will eliminate this drudgery. It's light—easily carried to the job. It will work in any position. It will pay for itself quickly in labor saving and broken blade costs alone. Capacity 3" x 3". Write for literature.

Lipe-ROLLWAY CORPORATION
812 Emerson Ave., Syracuse, N. Y.

REFFITT—Identify by IEN - 2590 if you write the maker



UP PRODUCTION AS MUCH AS 1000%!!

The New Boice-Crane Low Cost Combination Contour Saw & Band Filer

PRODUCES
maintenance parts
short run production parts
metal templates
special wrenches
wrench templates
cams
spiral parts
irregular shaped stacked parts
stamping, forming, trimming dies
IN MINUTES, INSTEAD OF THE HOURS REQUIRED BY OLD METHODS INVOLVING MILLING, SHAPING AND HAND FILING.

PRECISION FILING, FILE BROACHING AND FLASH REMOVAL IN ONE-NINTH THE TIME

required by hand and one-fourth the time required by reciprocating filing machine. Eliminates guesswork in angle filing.

EXCLUSIVE!

8 speeds, from 92 to 4100 blade f.p.m. chart mounted on machine shows correct speed for accurate inside, outside and contour sawing of wood, sponge rubber, hard rubber, plastics, bakelite, masonite, asbestos, synthetic glass, manila, blocks, cartons, bar and sheet steel, tool steel, brass, steel and aluminum tubing, and for filing metals and other industrial materials.

Rigid, solid welded steel frame. 15" x 15" ribbed cast work table mounted on two heavy cast trunnions.

New guide design sharply reduces blade costs.

Handles blades ½" to ¾". File bands come in ¼" and ½" widths, two shapes, six cuts. Patented self-aligning ends of file segments automatically lock to produce a continuous, rigid, flat surface.

USE COUPON TO GET FREE LITERATURE

BOICE-CRANE COMPANY
926 Central Ave. • Toledo 6, Ohio

Please send me free literature on the new Boice-Crane Combination Low Cost Band Filer.

NAME
FIRM
STREET
CITY & STATE

▼ REFER (7)—Identify by IEN-2592 if you write the maker ▼

▼ REFER (7)—Identify by IEN-2593 if you write the maker ▼

▼ REFER (7)—Identify by IEN-2595 if you write the maker ▼

PYROMETER . . Slide wire attachment converts recorder to control operation

Source: HAROLD BECK CO.
3038 N. Second St., Philadelphia 40, Pa.

Model 2000 for the Honeywell Brown potentiometer and Model 100 for the Honeywell Brown recorder, slide wire attachment, for converting Brown Recorders to automatic control, have been developed for control of temperature, pressure, humidity, speed, etc. Units are easily installed, with no interference to recorder operation. Fixed mounting permits use of the pen as an indicator, or the pen can be used as the pointer of the slide wire assembled on the recorder. The complete control unit operating signal is 0-10 ma. Variable speed motors. The control motor is an air cooled 1/40 h.p. motor, mounted on a compact housing, which may be mounted separately from the recorder if desired.

▼ REFER (7)—Identify by IEN-2596 if you write the maker ▼

CLEANING . . Powdered hand soap, medicated to prevent skin diseases

Source: HUNTINGTON LABORATORIES INC.
Hunt St., Huntington, Ind.

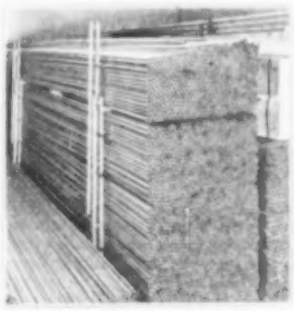
Kills resident skin bacteria

Germa-Medica No. 1-41 is a new powdered hand soap containing hexachlorophene. Due to its potency, externally applied skin diseases may be prevented. The medicated soap also has a good germicidal effect on mucosal infections from minor injuries which may be sustained.

▼ REFER (7)—Identify by IEN-2597 if you write the maker ▼

STORING . . Adjustable rack to retain stacked bar stock, tubing

Source: PORTO-RAK CO.
322-26 E. Wisconsin Ave., Milwaukee 2, Wis.



New assembly of two steel angles with tube spacers to form uprights members and flat steel strip for cross members makes up an adjustable rack with which to stack bar stock and tubing. The cross members have formed ends that engage the uprights to lock the two sides together. A desired height can be built up by stacking a number of the units as required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 30

▼ REFER (7)—Identify by IEN-2598 if you write the maker ▼

▼ REFER (7)—Identify by IEN-2599 if you write the maker ▼

▼ REFER (7)—Identify by IEN-2600 if you write the maker ▼

▼ REFER (7)—Identify by IEN-2601 if you write the maker ▼

REFER IT—Identify by IEN - 2602 if you write the maker

Hand in Hand

A quick glance over the list of our long time customers shows that many of the larger ones started small. That's why we make it a continuing policy to give *the same close attention to every order, regardless of size.*

You'll never have a gear problem too small to interest us. For, in our forty-five years of manufacturing and selling gears of all types, it has become increasingly evident that good *service to all and our future business success*—go hand in hand.

THE EARLE GEAR & MACHINE CO., 4707 Stenton Ave., Philadelphia 44, Pa. Sales Offices: New York City; Youngstown, Ohio.

It's good business to do business with EARLE.

EARLE GEARS

REFER IT—Identify by IEN - 2603 if you write the maker

60% Saving in Man-Hours by ELWELL-PARKER Truck!

• Before purchasing this E-P fork truck, it required 20 man-hours at a grocery warehouse to unload and store 2000 cases of food. Now, with the Elwell-Parker, *only 8 man-hours are needed* . . . By tiering loads to the roof, the truck also permits maximum use of *all* floor space.

To learn about notable savings being made by Elwell-Parker trucks in over 500 different branches of industry, send for—

FREE BOOKLET on *Scientific Materials Handling*. Ask for a copy of "Industrial Logistics".

THE ELWELL-PARKER ELECTRIC COMPANY
4001 St.-Clair Avenue • Cleveland 3, Ohio

REFER IT—Identify by IEN - 2604 if you write the maker

Did you know that SHIMS CAN BE MADE ADJUSTABLE?

to cut machining costs . . . to save assembly time

[illegible] of LAMINUM [illegible] adjustable [illegible]

HERE ARE THE ADVANTAGES

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]

FOR PRECISION ADJUSTMENT OF SPLIT BEARINGS, GEAR MESH, END PLAY, ACCURATE SPACING OF MACHINERY COMPONENTS

LAMINUM

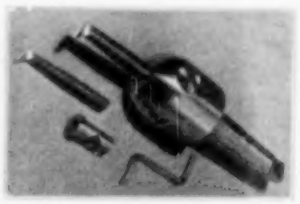
LAMINATED SHIM COMPANY, Inc.
[illegible] Street, Glenbrook, Conn.

SHIMS • SHIM STOCK • STAMPINGS • AN-COR-LOX NUTS

REFER IT—Identify by IEN - 2605 if you write the maker

BORING . . Adjustable holder positions cutting tool in pivoted head

Source: TECHNICAL DEVELOPMENT CO.
20-24 Meredith Road, Philadelphia 31, Pa.



The cutting tool in this new adjustable holder rides in a socket in a flat-face circular member carrying gear teeth on the rear one-half of its perimeter. Turning a wormwheel, positioned across the holder near its rear face, rotates or pivots the cutter-holding member to swing the cutter to a desired setting. Range is ½ to 6 in. on the diameter.

The holder is supplied with boring cutters having ⅝ and ¾ in. shanks and with a holder shank to fit a No. 2 or No. 3 Morse taper in the spindle of a boring, drilling, milling machine or a lathe. Body diameter is 2 inches. Length less the shank but with the cutter is 3½ or 4½ in. for the two cutter sizes. List price is $36.

REFER IT—Identify by IEN - 2606 if you write the maker

TESTING . . Oscillograph, 5 in. screen, 2 to 30,000 cps. sweep

Source: ALLEN B. DU MONT LABORATORIES INC.
1002 Main Ave., Clifton, N. J.

Type 304 and 304-H are new oscillograph designs to replace the company's previously developed Type 208-B unit. The two new instruments are identical except for the overall accelerating potential of 1,780 volts on Type 304 and 3,000 volts on Type 304-H. Stable high-gain ac. and dc. amplifiers are provided for both X and Y axes. The circuit design assures instantaneous recovery from signal overload, even at high gain. Recurrent and driven sweeps are variable between 2 and 30,000 cps. Slow sweeps of 10 sec. or more are available by connecting external capacitors between the X input terminals.

REFER IT—Identify by IEN - 2607 if you write the maker

CASTINGS . . Chart of facts and figures on steel castings classified by tensile strength

Steel Founders' Society of America
910-22 Midland Bldg., Cleveland 15, Ohio

Engineering data on steel castings has been condensed into a 20½ by 13 in. chart with the title, "General Engineering Types of Steel Castings." The chart groups the information under carbon steel structural grades and low-alloy steel engineering grades, presents current specifications on each group of grades as classified by tensile strength. Specification minimums are given on typical specifications for each group.

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

REFER IT—Identify by IEN - 2608 if you write the maker

Announcing A New LOW COST Ball Bearing for Use

LINEAR MOTIONS

THE COMMERCIAL GRADE SERIES B

BALL BUSHING

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series B Ball Bushing.

The low-cost Commercial Grade Series B bearing is now added to the Ball Bushing line and offered to original equipment manufacturers. This ball bearing has been developed for support of linear motions in competitively priced, volume produced products where super precision is not essential. Alert designers can now make tremendous improvements in their products by using Ball Bushings on guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.

Competition is returning. Up-to-date engineering can be important to you!

NEW ITS NOW AVAILABLE

LOW FRICTION • ELIMINATE BINDING AND CHATTER • SOLVES SLIDING LUBRICATION PROBLEMS • LASTING ALIGNMENT • LOW MAINTENANCE • LONG LIFE

THOMSON INDUSTRIES, INC. MANHASSET (NEW YORK)

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS—A TRIED IMPROVEMENT AT A MINOR COST

REFER IT—Identify by IEN - 2609 if you write the maker

Lasting Vertical Storage

More than half a century of experience has proved that Neff & Fry Concrete Stave Bins last from generation to generation with virtually no maintenance expense. They do not rust, rot, or burn. They withstand tornadoes which demolish buildings and uproot trees in the vicinity. They are not harmed by contraction and expansion.

The photograph at the right shows a small area of a Neff & Fry storage bin wall. Notice the pattern of the Super-Concrete Staves with their diagonally pointed ends. You can see that each stave interlocks with six adjoining ones; also that the steel hoops around the horizontal joints impinge directly upon the points of the staves.

Molded under hydraulic pressure, the staves are dense in texture. They have such high compression strength that superstructures are frequently built on top of N. & F. Bins without extra supports.

Almost all conceivable kinds of bulk flowable materials are handled in N. & F. Bins. The principal ones are grains, seeds, coal, coke, sand, cement, aggregates, ashes, minerals, ores.

If you do not have a stenographer or recorder at hand, make a memo, or clip this advertisement as a reminder to request complete information on N. & F. Storage Bins. Don't commit yourself to vertical storage structures before getting the facts from us.

THE NEFF & FRY COMPANY
East Central Avenue, Camden, Ohio

NEFF & FRY STORAGE BINS

REFER IT—Identify by IEN - 2610 if you write the maker

BETTER STAMPINGS WIDER USEFULNESS

from any metal working press when you apply with

CLEARING DIE CUSHIONS

You can do more—both in variety and volume of work—with any metalworking press if you equip it with suitable die cushions as designed and built by Clearing—pioneers in their development. Cushions are useful in many ways—for blankholding on single action presses, for overload safety, for lift outs, and other applications.

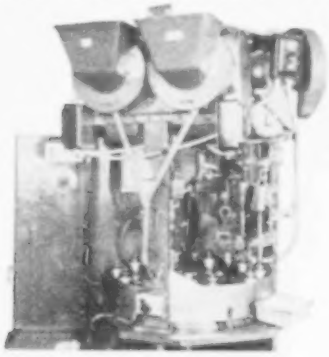
Clearing guided cushions, pneumatic or hydro-pneumatic, are available in a great variety of types and sizes to fit almost any press, from small O.B.I.'s up to the largest presses built.

Write for your copy of Bulletin 212. It contains a wealth of valuable information about Clearing cushions and what you can do with them. There's no obligation.

CLEARING MACHINE CORPORATION
6499 WEST 65TH STREET • CHICAGO 38, ILLINOIS

BREVITY—Identify by IEN - 2612 if you write the maker

These KRAUS HOPPERS



Save $45.00 per day!

Four Kraus Hoppers applied to Sciaky Welder to feed two sizes of two different pieces, actually save $45.00 per day for one manufacturer of electrical equipment. A metal housing is inserted manually and assembly and ejection are completely automatic.

This saving is typical where Kraus Hoppers are used. Every Kraus Hopper is specifically designed to handle the particular job to which it is applied. For complete information on adopting this dollar saving equipment to your process, send sample parts, with orientation and delivery requirements to

KRAUS DESIGN INC.

950 EXCHANGE ST. ROCHESTER, N. Y.

BREVITY—Identify by IEN - 2613 if you write the maker

A MUST! for PERMANENT MOLDING use GRAFOLUX

Grafo

A GRAFO COLLOIDAL PARTING COMPOUND
That Insures

LONGER MOLD LIFE
EASIER PARTING
TOP PRODUCTION
SURFACE QUALITY

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available for All Industrial Lubrication

"Grafo" Colloidal Graphite may be obtained in water, petroleum oil and castor oil, in concentrated, semi-concentrated and ready-for-use mediums.

Write Us Regarding Your Special Applications

GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF COLLOIDAL PRODUCTS

SHARON, PENNSYLVANIA

BREVITY—Identify by IEN - 2614 if you write the maker

NEW MAGNET DEVELOPMENTS by ERIEZ

MINUTE IRON REMOVED AUTOMATICALLY FROM EXTREMELY FINE DRY POWDERS

Eriez Manufacturing Company, 58 East 12th Street, Erie, Pa.

ERIEZ ERIEZ ERIEZ ERIEZ ERIEZ

BREVITY—Identify by IEN - 2615 if you write the maker

INSULATING . . Shock absorber prevents hammer in a liquid pipe line

Source: R-S PRODUCTS CORP.
4528-32 Germantown Ave., Philadelphia 44, Pa.

Rubber ball enclosed in the housing of this new shock absorber acts as the cushioning element to absorb sudden pressure changes in a pipe line. The action eliminates the hammer effect due to sudden closing of a valve in the line. Four sizes have 1 to 2½ in. pipe-threaded connection. Overall weight ranges from 5¾ to 25¾. Below flange diameter is 5¾ in. in the smallest, 7¾ in. in the other three. List price is $17.50 to $50. The industrial model, measuring 8¾ in. in overall height, has been tested to internal pressure of 3,000 pounds.

BREVITY—Identify by IEN - 2616 if you write the maker

PLASTIC . . Phenolic compound for wet or under-water machine parts

Source: DUREZ PLASTICS & CHEMICALS INC.
6 Walck Road, North Tonawanda, N. Y.

Available in granular form

No. 14899 Black is a new phenolic molding compound that has been developed for parts such as the agitator on a washing machine where the part must operate wet or under water and in a considerable temperature range. It retains its surface finish after prolonged immersion in hot soap and detergent solutions. Dimensional stability is excellent. Alternate color is red.

Mold shrinkage is .005 in. per inch. Water absorption is maximum at .6 per cent. Flexural strength at 50 deg. C. is upward from 10,000 lb. per square inch. Tensile strength is upward from 6,000 pounds. Impact strength is .5 ft. lb. per in. or better. Specific gravity is 1.38.

BREVITY—Identify by IEN - 2617 if you write the maker

CONNECTORS . . Miniature terminals for electronic equipment application

Source: U. S. ENGINEERING CO.
519-23 Commercial St., Glendale 3, Calif.

New line of miniature terminal lugs has been added to the company's larger connectors to provide units suited for use in electronic equipment where size is an important factor. The units are available in many sizes and designs as shown and described in a 4-page bulletin, "Standardized Electronic Hardware." Each piece is silver plated and treated to prevent corrosion.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

BREVITY—Identify by IEN - 2618 if you write the maker

Light toe pressure

. . . instant action

This compact "all purpose" N-P foot-operated valve for compressed air control is actuated without effort. Action pressure, with pedal up or pedal down, by simple arrangement of piping. Pedal is shielded for safety. No sticking . . . no air leaks . . . fast, trouble-proof operation. Write for Bulletin DC-251.

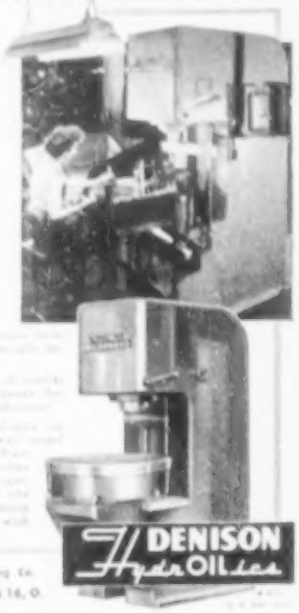
NATIONAL PNEUMATIC CO., INC.
Boston • Chicago
Graybar Bldg., New York

NP

FOOT OPERATED CONTROL VALVE
FOR ALL TYPES OF AIR CYLINDERS

BREVITY—Identify by IEN - 2619 if you write the maker

Another case where *MULTIPRESS* DOUBLES PRODUCTION



DENISON HydroOil ies

The DENISON Engineering Co.
1150 Dublin Rd., Columbus 16, O.

BREVITY—Identify by IEN - 2620 if you write the maker

NOW . . . YOU CAN FINISH CARBIDES FASTER AT LOWER COST!

ELGIN DYMO DIAMOND COMPOUND

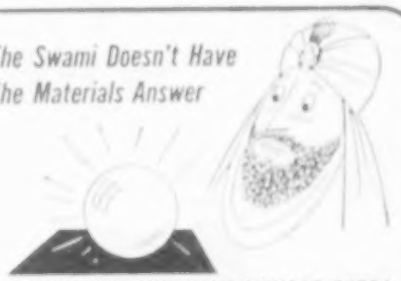
An exclusive compound vehicle ensures maximum cutting from precision graded virgin diamond particles. You save preparation time and eliminate waste, too, because ELGIN DYMO comes ready to use. It will not settle, cake or dry out. Eleven grades meet every lapping or polishing need. Try ELGIN DYMO today and save.

Free demonstration in your own plant — WRITE TODAY!

INDUSTRIAL PRODUCTS DIVISION
ELGIN NATIONAL WATCH COMPANY
AURORA, ILLINOIS

BREVITY—Identify by IEN - 2621 if you write the maker

The Swami Doesn't Have The Materials Answer



THE COMPLETE SYNTHANE CATALOG DOES!

Discover new ways to lengthen, or modifying existing processes and procedures to cover where you have problems. Join the Synthane Laminated Plastics Family. You'll find them in the new Synthane Catalog.

It will help you find that exclusive material and fabrication, as it contains the latest facts on grades, sizes, properties, approvals and forms of Synthane. You'll want a copy in your office. Keep it as your permanent reference book.

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TECHNICAL PLASTICS
SHEETS • RODS • TUBES
FABRICATED PARTS

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MOLDED-LAMINATED
MOLDED-MACERATED

SYNTHANE CORPORATION
South River Road, Oaks, Pa.
Please send me a copy of the complete Synthane catalog.
Name
Firm
Address
City State

DRAFTS—Identify by IEN-2622 if you write the maker

To MACHINE STAINLESS STEEL AT *Less Cost*

Ask your Inside Carpenter representative for a copy of the new "NOTEBOOK on Machining Stainless Steel." This 192-page book contains much information, gale listed for the first time in diagrams.

- TURNING
- DRILLING
- TAPPING
- THREADING
- MILLING
- BROACHING
- REAMING
- FILING & SAWING
- STONING
- LUBRICATION

A Check Chart in each section helps you quickly spot troubles and correct them. Call your Carpenter representative for a personal copy of the NOTEBOOK. He will be glad to give copies of the NOTEBOOK to Production and Management Executives. And also you here is, if you want additional copies for the men in your plant, they can be issued at cost. Extra copies are available at his agency to cover cost of printing and mailing.

THE CARPENTER STEEL COMPANY
151 W. Bern St., Reading, Pa.

DRAFTS—Identify by IEN-2623 if you write the maker

In floor maintenance

6 in 1

The Clarke Floor Maintainer does six jobs — provides fast, low-cost maintenance for all types of floors. Easy to use, perfectly balanced, noiseless, and quality-built, for years of uninterrupted service. A size for every need. Write for free catalog!

There's nothing like a

Clarke

Clarke SANDING MACHINE COMPANY, 243 Clay Ave., Muskegon, Mich.

DRAFTS—Identify by IEN-2624 if you write the maker

MINNEAPOLIS-MOLINE MODERN MACHINERY

HEAVY-DUTY

FOR ALL TYPES OF EQUIPMENT

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

DRAFTS—Identify by IEN-2625 if you write the maker

CONSTRUCTION . . Power shovel, tractor mounted, rates 3½ cubic feet

Source: MEAD SPECIALTIES CO.
4112-16 N. Knox Ave., Chicago 41, Ill.

Mighty Mouse trade name for assembly of track-type tractor with 5-hp. gasoline-engine drive and a hydraulically operated scoop or shovel that can serve also as a bulldozer blade. The complete assembly measures 77 in. in length by 30½ in. across the shovel (due to 28 in. in greatest height to the top of the control handgrip cylinder). This unit takes 3 cu.ft. of capacity.

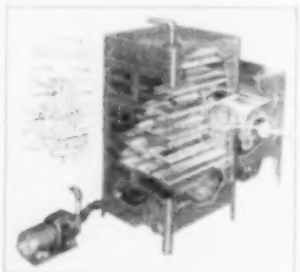
The operator rides in a rubber-cushioned seat from where he controls steering by combination brake and drive levers on the two sides. He uses his foot on a clutch and shift pedal. Auxiliary levers on the arms control raising and lowering and dumping. Travel speed is 2, 3, 6 mph. in forward and reverse. Turning radius is within an 82 in. circle. Assembly weight is 800 pounds.

Available with the power shovel, is a trailer cart mounted on two pneumatic-tired wheels (2 x 10 x 14PT). The shovel from the tractor is removable. It can also use a mechanical bucket with the shovel and cart for hauling earth.

DRAFTS—Identify by IEN-2626 if you write the maker

REFRIGERATING . . Cooling tower absorbs heat from condensing water

Source: BINKS MFG. CO.
3122 Carroll Ave., Chicago 12, Ill.



Six sizes in new line of Type-E condenser water cooling towers range to 108 gpm. in water-handling capacity. Over-all clearance dimensions are about 2 ft. 7 in. x 5 ft. to 6 ft. 11 in. x 8 feet. The small one employs a blower driven by a ½-hp. motor. The largest takes 2 hp. The equipment has been designed for use with room air conditioning and refrigerating units with water-cooled refrigerant condensers.

Water from the condenser is pumped to the diffusion pan on the housing of the cooler. It spreads over this pan and runs down through perforations to fall upon staggered horizontal slats. The action results in a large number of water films through which the blower draws cooling air. The air and entrained moisture strike a series of moisture eliminators so only the air passes to the blower and out through the exhaust opening. The cooled water is circulated back to the condenser. Specifications, illustrations and selection data are included in Bulletin "Type E Series Induced Draft Cooling Towers," section 42, pages 1 to 4.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 50

DRAFTS—Identify by IEN-2627 if you write the maker

PRECISION TUBE COMPANY, INC.

DRAFTS—Identify by IEN-2628 if you write the maker

COSTS MORE - WORTH MORE

You get your money's worth when you buy BMC Pressure Lock Wrenches. For just a few cents more you can get this extra-value, six-in-one tool — it's an adjustable pliers, pipe wrench, locking clamp, gripping tool, monkey wrench, and hand vise. There is a BMC Wrench of the right size and pressure for your jobs: No. 7 — ¾" Jaw, $2.29; No. 9 — 1" Jaw, $2.59; and No. 11 — 1½" Jaw, $4.89.
Red plastic or steel handle grips optional.

BMC *Write for name of nearest BMC Distributor*
MANUFACTURING CORPORATION, Binghamton, N. Y.

DRAFTS—Identify by IEN-2629 if you write the maker

New! *Farquhar* SUPER-ACE CONVEYOR

slashes coal handling costs!

Here's a brand new Farquhar Portable Conveyor with exclusive features especially designed to save you time and money in your coal handling operations. Heavy plate construction chassis, non-wheel track, close tolerances, all give you greater strength with less weight! Bolted construction makes for easy repairs! Top-quality belting, improved pulley construction, deeper, wider return dust pan assures longer belt life! Moving parts feature ball bearings! Either chain and sprocket or V-belt drive!

Farquhar CONVEYORS SAVE YOU MONEY

WRITE NOW for complete information on this new, time and money saving Farquhar Super-Ace Portable Coal Conveyor!

A. B. FARQUHAR CO., Conveyor Div., 251 Duke St., York, Pa., or 614 W. Elm St., Chicago 10, Ill.

HYDRAULIC PRESSES • FARM EQUIPMENT • FOOD PROCESSING AND SPECIAL MACHINERY

DRAFTS—Identify by IEN-2630 if you write the maker

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM RATIO COUNTING SCALE

Write for literature

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
5416 PARK AVENUE • BROOKLYN 5, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▼ REFER(?)—Identify by IEN-2631 if you write the maker ▼

SAFETYMIX

EXTRA SHOWER SAFETY
. . . at no extra cost

PROTECTS AGAINST SUDDEN SCALDS

Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT

Even with excessive pressure fluctuations up to 45%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE

The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but one moving part to control all valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE

Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

(50,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, campus, industrial plants, hotels, clubs, hospitals, apartments and homes.)

Send for bulletin and prices.

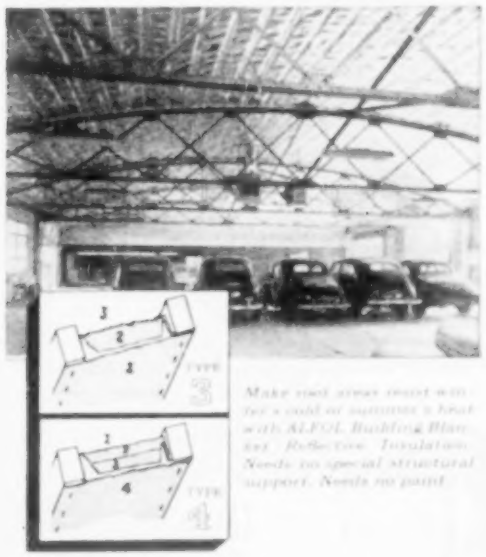
SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

▼ REFER(?)—Identify by IEN-2632 if you write the maker ▼

Keep COSTLY HEAT *out of* ROOF TRUSSES *and* UNUSED AREAS *with*

ALFOL REFLECTIVE INSULATION



Make vast areas resist winter's cold or summer's heat with ALFOL Building Blanket. Reflective Insulation. Needs no special structural support. Needs no paint.

Winter cold wraps can fox plant heating systems to expensive levels if roof spaces and other unused areas are permitted to waste heat.

Summer's sun can send that same roof space up to furnace temperatures! Then employee comfort suffers and grievance committees are on the march.

Use ALFOL Insulation to seal off either extreme!

ALFOL'S reflective surfaces of pure aluminum foil reflect 95% of all radiant heat, creating effective barriers against heat, cold and dampness. ALFOL'S perfect insulation and a complete vapor barrier all in one product, installed in one operation.

ALFOL Building Blanket of the types shown is light reflecting, needs no paint. You don't have to get in dressed as a sailboom. Just apply it with a stapling hammer and the job is done.

ALFOL INSULATION
First in Reflective Insulation

REFLECTAL CORPORATION
COMMERCE BLDG. • NEW YORK 17, N. Y.

▼ REFER(?)—Identify by IEN-2634 if you write the maker ▼

THREADING . . Hand tapping machine holds and aligns No. 0 to ¼ in. taps

Source: H. D. MERDER TOOL SPECIALTIES CO.
2327 E. Michigan Ave., Kalamazoo, Mich.

Model H. T. 250 is a new hand-operated machine that provides a hand-operated spindle with a rotary chuck above a work-supporting base. Four pulleys are interchangeable to the chuck for taps from No. 0 to ¼ inch. The spindle is adjustable through a mounted tube on a support column, and has locators on this column and adjusted for height. A ball-and-spring stopping appears on the spindle to support the weight on the arm.

The base measures 6 by 9 inches. Thread dimensions are clear work for tapping to the center of an arm, circle. The support column measures ¾ by 8½ inches. The spindle is ⅝ in. in diameter and provides 1¾ in. of stroke from a maximum of 6¼ in. above the table. Cut price is 10 cents hour-change and the cutter is $19.25.

▼ REFER(?)—Identify by IEN-2635 if you write the maker ▼

SWITCH . . Toggle operated unit, plug fused, rates 2 hp. on 220 volt ac.

Source: GENERAL SWITCH CORP.
47-51 Roebling St., Brooklyn 11, N. Y.

No. 6[illegible] is a new design in the company's line of safety switches. It is housed in the same enclosure that has been supplied by the company. The pressure switch is constructed. It is now available with the 6[illegible] engine. It is now available from the Construction equipment [illegible]. Model No. [illegible] is designed for [illegible] and [illegible] pressure switch [illegible] with [illegible] and the [illegible] with [illegible] for [illegible].

The new design is available in the 3 pole with neutral, [illegible] shown in which are two plug fuse receptacles and an [illegible] and [illegible] fuse. It is made also in a No. 6[illegible] with 2 poles [illegible] and two plug receptacles and in No. 6[illegible] with 2 poles, a neutral [illegible] and one receptacle. Overall dimensions of the [illegible] are 4¾, 11, 3 [illegible] 7 in. [illegible] [illegible].

▼ REFER(?)—Identify by IEN-2636 if you write the maker ▼

LUMBER . . Properties of Greenheart wood set forth in new bulletin with application data

Source: D. Walshe Timber Co.
22 Vanderbilt Ave., Room 1106, New York 17, N. Y.

Durability of the wood Greenheart, grown in British Guiana, is stressed in new Folder [illegible] along with other properties. A two-page chart gives figures on strength and hardness compared to six other woods used for marine and heavy duty construction. Also will consider large [illegible].

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 10

▼ REFER(?)—Identify by IEN-2637 if you write the maker ▼

simple . . . reliable . . . easy to take apart

Only three moving parts. No pilot gears. No sliding vanes. No reciprocating members. Nothing to get out of order.

IMO pumps are designed for handling oils, hydraulic control fluids and other liquids over a wide viscosity range.

Send for Catalog L-32Q

L 155

IMO PUMP DIVISION of the DE LAVAL STEAM TURBINE CO.
TRENTON 2, NEW JERSEY

▼ REFER(?)—Identify by IEN-2638 if you write the maker ▼

DO YOU KNOW?

—that a PILOT LIGHT CAN IMPROVE YOUR PRODUCT

. . . add attraction—safety—service?

Ask DIALCO

THIS MAY BE THE ONE

Designed for low cost NE-51 Neon
• Rubber Resistor • Panelmat
• 115 V. Fixed • Rugged

Catalogue Number 52[illegible] — 99[illegible]
for 110 or 220 volts

SAMPLES
for design purpose
NO CHARGE

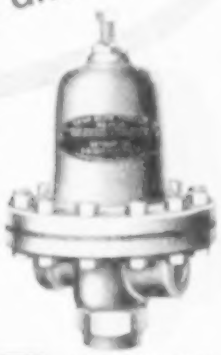
NEW! Write for the HANDBOOK OF PILOT LIGHTS

Write us on your design problem.

Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y.

▼ REFER(?)—Identify by IEN-2639 if you write the maker ▼

The problem . . . The answer . . .



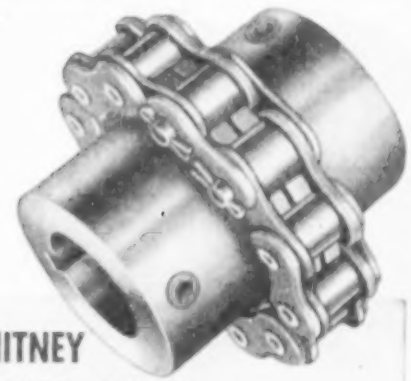
How to reduce pressures as high as 2,500 pounds down to working pressures. Cash-Acme Type LS Pressure Reducing Valve will do it. This valve is ALL BRONZE—with Nitralloy trim for longer service.

CASH-ACME Automatic Valves

Ask your Mill Supply dealer for information about the FULL LINE of Cash-Acme Automatic Valves.

A. W. CASH VALVE MANUFACTURING CORP.
5612 EAST WABASH AVENUE, DECATUR, ILLINOIS, U. S. A.

▼ REFER(?)—Identify by IEN-2640 if you write the maker ▼



WHITNEY ROLLER CHAIN
Flexible Couplings

FOR YOUR DIRECT POWER DRIVE APPLICATIONS

Whitney Roller Chain Flexible Couplings offer the equipment manufacturer and machine user a practical and effective way for connecting power equipment to driven machines. A wide variety of [illegible] provides positive operation . . . assure long life.

Check these Whitney Flexible Coupling features: easily installed, allowing more end play, dismantles in a minute, [illegible] shafts or bearings, allows for slight shaft misalignment.

You can use Whitney Flexible Couplings wherever a positive yet flexible direct drive is required. Write for information.

WHITNEY CHAIN & MFG. CO.
Division of Whitney Blake Industries, Inc.
202 Hamilton Street, Hartford 2, Connecticut

BREVITY—Identify by IEN - 2641 if you write the maker

The "MASTER" Line

OF MATERIALS HANDLING EQUIPMENT

"Engineered to Save You Money"

Get This Latest L-S Bulletin

Featuring Electric Power Fork Trucks

SEND FOR BULLETIN NO. 25

THE "MASTER" LINE

CUT COSTS WITH The "MASTER" Line

SPACEMASTER Electric Trucks
SPACEMASTER Gas Trucks (Fork Types)
MASTER JACKSTACKERS
JACKLIFT ELECTRIC Trucks
MASTER JACKTRACTORS
MASTER JACKLIFT Trucks
MASTER QUICKLIFT Trucks
MASTER REDLIFT Trucks
MASTER SPEEDLIFT Trucks
POWERMASTER Stackers
SPEEDMASTER Stackers
FLOORMASTER Trucks
SHIPMASTER All Steel 2-Wheel Trucks
WELDMASTER Platforms
LOADMASTER Racks

LEWIS-SHEPARD PRODUCTS INC.

142 Walnut St., Watertown 72, Mass.

Midwest Plant: Crawfordsville, Ind.

Representatives in Principal Cities.

BREVITY—Identify by IEN - 2642 if you write the maker

True in 1899...True today.. You Get BETTER MARKING with Pannier "Master Markers"

Famous in the steel industry for their durability and "good impressions", these Pannier "Master Markers" are *still* your best bet for efficient and clear-cut marking of steel and steel products. Write for full information today.

Offices: Pittsburgh • Chicago • Los Angeles • Youngstown • Philadelphia

THE PANNIER CORPORATION

101 Pannier Building

Pittsburgh 13, Pa.

BREVITY—Identify by IEN - 2643 if you write the maker

SPEED • SAFETY • SAVINGS

IN LIFTING AND LOWERING

Send today for new catalog giving complete information on capacities, prices, reach, chain pull, test load, etc.

Chester Hoists are available in standard and special Spur-geared types (½ to 25 ton capacity) or Differential type (½ to 5-ton capacity). Complete line of trolleys, parts and accessories.

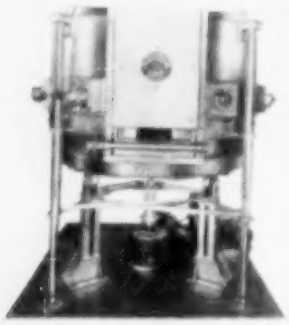
THE NATIONAL SCREW & MFG. CO.

Chester Hoist Division — Lisbon, Ohio

BREVITY—Identify by IEN - 2644 if you write the maker

HEATING . . Gas fired furnace with rotary hearth for forge blanks

Source: W. S. ROCKWELL CO.
202 Eliot St., Fairfield, Conn.



Forge blanks are charged into and removed from this new furnace through a 9 by 2½-in. slot in the wall just above the 4-ft. circular hearth. Heat is supplied by eight gas burners in the insulated furnace wall. The hearth is mounted on rollers and is rotated by a motor, reducer and variable-speed Reeves transmission for a cycle in 12 to 90 minutes. The assembly is mounted on a steel base for positioning near a forge hammer.

BREVITY—Identify by IEN - 2645 if you write the maker

PAINTING . . Enamel in spray can delivers on tilting and pressing valve

Source: SHEFFIELD BRONZE PAINT CORP.
12405 Euclid Ave., Cleveland 6, Ohio

No paint brush is required

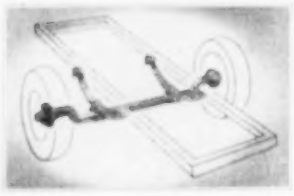
Quik Spray designates a new line of enamels packaged in a new spray can equipped with a valve for which patent has been applied. Delivery of the enamel in the form of a fine mist is under control of the valve when the can is tilted below horizontal. Passage is through a flexible spray nozzle made of synthetic material similar to rubber. It is cleaned by removing it and flexing it with the fingers to crack off any hardened paint.

The enamel is available in eight colors including aluminum. Each can holds 12 ounces. Twelve cans to standard carton.

BREVITY—Identify by IEN - 2646 if you write the maker

WHEELS . . Drop axle assembly in kit including springs and wheel hubs

Source: UNITED MFG. CO.
9-13 W. Interstate St., Bedford, Ohio



Axles with a forged center drop have been added to the company's line of wheel and axle kits previously described IEN-11845-49. The standard drop dimension is 4 inches. Component parts include standard leaf springs and wheel hubs to take pneumatic tires. Typical applications are in portable welding generators, utility wagons, compressors, carriers for long objects such as poles, pipe. Rating is 1,500 to 6,000 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 2647 if you write the maker

Streamlined— AIN'T SHE?

SIZES: 1", 1½", 2", 3"
CAPACITIES: 1 to 450 G. P. M.
HEADS: 15 to 500 feet
MOTORS: 1750 and 3500 RPM, ½ to 40 horsepower
MATERIALS: Standard, All Iron, All Bronze, or special to meet unusual requirements

WRITE FOR BULLETIN 100 TODAY

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC.

66 Bridge Avenue — Warren, Massachusetts

BREVITY—Identify by IEN - 2648 if you write the maker

It Pays to Specify EAGLE SPECIAL PURPOSE PADLOCKS

For all types of special purpose security, Eagle offers the experience and facilities to solve your individual problems. Below are described two special purpose padlocks that were developed by Eagle for specific needs.

EAGLE LOCKER and BATH HOUSE PADLOCK No. 4508

EAGLE HOSE HOUSE PADLOCK No. 040968

Inquiries invited on padlocks to meet your special purpose needs.

America's First Lockmakers—Since 1833

The EAGLE LOCK Company Terryville, Connecticut

BREVITY—Identify by IEN - 2649 if you write the maker

BE POSTED on the LATEST in TOOLS!

GET FREE DURO-CHROME *CATALOG*

Duro-Chrome Tools are popular with men and manufacturers alike. After 3 to 10 times finishing, they are ready to be fitted with handles and to be used. Many shop men specify Duro-Chrome tools for their work.

Tools manufactured by a progressive firm, and American made of best quality, for hard polishing, of uniform quality, hardened parts. For instance, there are no set screws. Duro-Chrome tools are made of best quality chrome vanadium steel, carefully hardened and ground.

ANOTHER Duro-Chrome BETTERMENT . . . is the "Hi-Power-Head" Socket. Its grip is accurate, much larger (over 25 per cent stronger) and designed for close quarters.

GET FREE 108-page CATALOG

everyone good tools!

The colorful Duro Catalog is full of information on mechanically minded men. Be posted! Write for your copy now.

DURO METAL PRODUCTS CO.
2640 North Kildare Ave.
Chicago 39, Illinois

DURO-CHROME TOOLS

FOR GRATIFYING PRODUCTION

BREVITY—Identify by IEN - 2650 if you write the maker

RWAW

RESISTANCE WELDING AT WORK

14,400

SPOT WELDS PER HOUR

That is how one manufacturer stepped up his production through ingenious application of resistance welding. This 88-page illustrated bulletin describes this and many other cost-cutting, welding and boiling operations of live metal working plants. You too can achieve a better product with increased production by writing direct to:

SCIAKY

SCIAKY BROS., INC., 4911 W. 67th St., CHICAGO 38, ILL.

IEN 2651

Rotor's 15 New "Multi-power" Chippers are easier to handle . . . do jobs faster

The unique hollow pistons and "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers provide the 1-2 punch to cut your chipping costs.

Lighter Weight. These new Rotor chippers average 10% to 15% lighter than other chippers doing their assigned job handling.

Shorter. Exclusive "doughnut" valve makes possible cutting of 1" to 1½" in length, making it easier to get into tight, crowded corners.

Faster Cutting. You get more blows per minute . . . because of new exclusive design.

3 Models in 1. By a simple change of parts you can adapt each of the 5 basic models to serve as 3 hammers to match your job: 15-A "regular" model, 15-B "super speed" model, 15-C "super work" model.

This is the biggest advertisement in chipping hammers in the past 25 years! Find out all about it. Write for catalogue No. 15.

AIR O TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

IEN 2652

YOU CAN BE *SURE* . . IF ITS
Westinghouse

Can Your Pumps Use *MOTOR STAMINA* Like this?

We certainly do not recommend open motors be operated under these conditions—in fact, we say DON'T DO IT! But the actual example illustrates the real stamina built into Life-Line motors—stamina resulting from improved materials and manufacturing methods.

Take the insulation. Tolerat wire is used for all coils. Protect it . . . in a non-Lines. The insulation remains undisturbed. It's that tough. Further, the rotors have zero multiple slips and bakes to tough, moisture and oil resistant, they must, provide. Thus, why, even under a condition, there was no stalling shortcut.

Get all the facts on Life-Line. Ask your local Westinghouse representative for a copy of B-3842 or write Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pa.

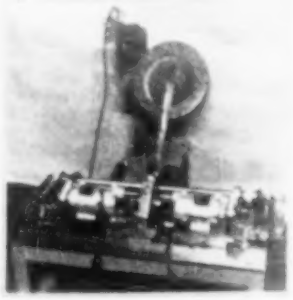
If you figure LIFE-COSTS . . . you'll figure LIFE-LINE

Westinghouse *Life-Line* Motors
INDUSTRY'S LEADING MOTOR

IEN 2654

BURRING . . Opposed spindle machine takes hopper fed small work pieces

Source: WALSH SPECIALTY CO.
534-38 S. Shawnee St., Lima, Ohio



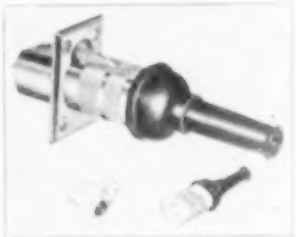
Operation: [illegible]

At the same time [illegible] the guided with the indexing mechanism feed the operation to the opposed spindle [illegible] hopper fed [illegible] is dropped into a new pair at the rate of 10 pieces per min. under [illegible] conditions. Dimensions are about 32 by 20 by 20 in. with the bed hopper about 24 in. back from the front of the machine as illustrated.

IEN 2655

CONNECTOR . . Electric plugs and receptacles for radio equipment

Source: CANNON ELECTRIC DEVELOPMENT CO.
3207-11 Humboldt St., Los Angeles 31, Calif.



Series LA [illegible]

Insulators [illegible]

IEN 2656

CONSTRUCTION Sheet copper and its uses for building construction stated in new booklet

"Master Specification 108" [illegible] copper, roofing and other metal work and set forth in new abridged standard booklet [illegible] to engineers, architects, contractors, and other [illegible] specifying bodies.

An Hours of Free [illegible] *and 30 Other Products for Comp* [illegible] *by THOMAS REGISTER* [illegible] *Ratings* — *See Page 9*

IEN 2657

MULTISTAMP
STENCIL DUPLICATOR

$19.50

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR for

- Shipping Tag Addressing
- POSTCARD PRINTING
- BOX MARKING

[illegible]

At Your Office or Shipping Room Supply Dealer

IEN 2658

Gear Manufacturer eliminates handling in quenching operation

[illegible]

CYCLONE FENCE DIVISION
[illegible]

CYCLONE METAL CONVEYOR BELTS
UNITED STATES STEEL

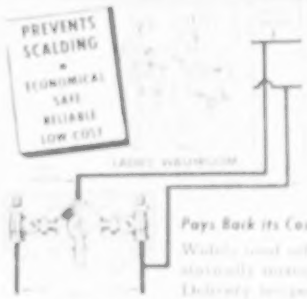
IEN 2659

[illegible]

SPENCER THERMOSTAT, [illegible] KLIXON

IEN 2660

POWERS Control saves Hot Water!



Pays Back its Cost several times a year

Widely used safety device. Thermostatically mixes hot and cold water. Delivery temperature remains constant whenever set regardless of pressure or temperature variations in water supply lines. Failure of cold water instantly and completely shuts off delivery. Available with extreme temperature ranges and capacities.

Type HVE-16-FH
POWERS THERMOSTATIC WATER MIXER

One mixer serves 2 or 3 washbowls (based on water pressure at 45 lbs.)

Has Many Uses
X-Ray and Color Film Processing • Shower Baths • Industrial Processes • Hospital Hydrotherapy

Other Controls with Capacities up to 1000 gals. per min.

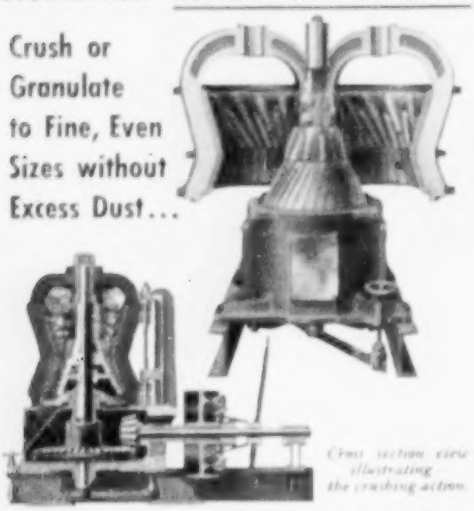
THE POWERS REGULATOR CO.
2737 Greenview Ave., Chicago 14, Ill.
Offices in [illegible]

POWERS
▶ Get Bulletin 358-H
THERMOSTATIC WATER MIXER

▼ BREFITT—Identify by IEN - 2661 if you write the maker ▼

STURTEVANT ROTARY FINE CRUSHERS

Crush or Granulate to Fine, Even Sizes without Excess Dust...



Cross section view illustrating the crushing action.

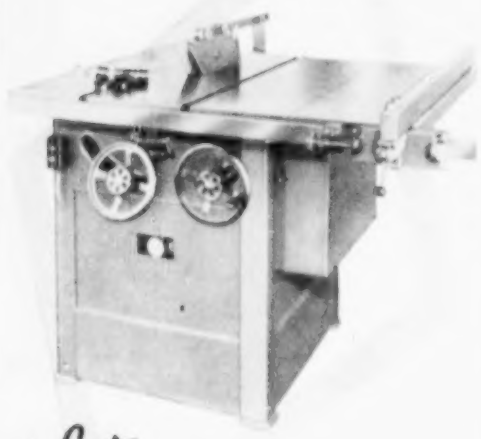
These rugged crushers speed output of fines, cut reduction costs. Desired fineness is quickly obtained by regulating hand wheel. "Open-door" accessibility permits fast, easy cleaning. They crush fine . . . crush fast and do not clog. Available in output capacities from 1 to 40 tons-per-hour. Write for catalog.

STURTEVANT MILL COMPANY
113 CLAYTON STREET, BOSTON 24, MASS.

▼ BREFITT—Identify by IEN - 2662 if you write the maker ▼

NEW!

WALKER-TURNER
12" Tilting Arbor Saw



Cuts Production Costs!

LOOK AT THE FEATURES . . . COMPARE!

CAPACITY: 4½" Dado capacity 1½" wide.
SAW ARBOR: 1" diameter.
TABLE: 45" wide x 38½" deep.
SPINDLE SPEED: 3600 r.p.m.
DRIVE: Exclusive "Synchro Belt Drive".
SAW GUARD: New improved safety guard and splitter.
RIP FENCE: New rip fence locks front and rear; micrometer adjustment "T" slots for miter gauge.
5 h.p. 3 phase motor or 3 h.p. single phase.

SOLD ONLY THROUGH AUTHORIZED DEALERS

Walker-Turner DIVISION
KEARNEY & TRECKER CORP. PLAINFIELD, N. J., U. S. A.

walker-turner DIVISION

See your local tools for complete technical data on this and other metal and woodworking machines in the complete Walker-Turner line. On shop stages for viewing.

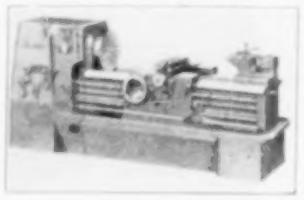
WALKER TURNER DIVISION
Kearney & Trecker Corp.
Dept. 183 Plainfield, N. J.

Please send me a copy of the complete Walker-Turner Catalog.
Name
Firm
Address
City Zone State

▼ BREFITT—Identify by IEN - 2664 if you write the maker ▼

LATHE . . Heavy duty, 16 in. swing, 30 in. base distance between centers

Source: SPRINGFIELD MACHINE TOOL CO.
629-33 W. Southern Ave., Springfield, Ohio



The spindle of this new Model 8 machine with its three ball or roller bearings and the hardened and ground gearing for 24 drive speeds as well as 60 thread and feed changes are assembled in the enclosed headstock with a multiple-disc wet-type combination clutch and brake. A mechanical reverse can be specified. All of the enclosed equipment is flooded with lubricating oil from a sump and pump in the cabinet leg beneath the headstock. The spindle carries a 1 15/16 in. through hole in standard assembly. It can be specified to cover 2 inches. Actual swing over the bed is 18½ inches.

There are three optional ranges of spindle speed at 10 to 670 rpm., 15 to 1,000 rpm. and 22 to 1,507 rpm. Recommended motors rate 10, 15 and 20 hp. The 60 thread and feed changes are standard at 1 to 60 threads per in., optional at 2 to 120, standard at .0007 to .2228 in. per revolution, optional at .0018 to .1114 inch. Power rapid traverse is provided, in addition to the feeds, by means of a separate motor mounted with the main drive motor in the cabinet leg.

The apron and carriage enclose the gearing and clutches with interlocking controls and mount a cross slide and compound, the latter arranged to swivel through 360 degrees. Bearings are anti-friction design. Lubrication of the carriage and bed ways requires no attention on the operator's part. The tailstock features a handwheel set at an angle at the front and equipped with two speeds for the spindle movement. The spindle measures 3 in. in diameter and has 9 in. of travel. Beneath the bed, between the two legs, is a caster-mounted chip pan that carries a coolant pump on its rear face. This pump has its own drive motor.

▼ BREFITT—Identify by IEN - 2665 if you write the maker ▼

VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: CHICAGO BLOWER CORP.
4556-60 W. Congress St., Chicago 24, Ill.

Centrifugal blower mounted on a vertical shaft in the center of this new Gyra-Flo exhauster draws air and fumes upward through a central cone. The blower discharges through side cones or wings. The air enters the atmosphere essentially without turbulence. The driving motor is a standard make and is located out of the flow path. It is belt connected to the blower shaft which is mounted in self-aligning ball bearings. The housing is made of steel and is equipped with a hinged access cover at the top.

Free air delivery rates 680 to 28,000 cfm. in the seventeen sizes in the line. These measure 12 to 68 in. in throat diameter and about 32 to 65 inches in height.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREFITT—Identify by IEN - 2666 if you write the maker ▼

New...COPPER TO COPPER VALVES WITH THINNER PIPE ENDS for Easy Soldering

O.B. has produced a fast heating pipe end that permits rapid distribution of heat through the valve wall and assures an even flow of solder around the joint. Carefully honed, the pipe end walls take advantage of the inserted tubing for self-centered, seamless or a single, leak-tight copper-to-copper connection.

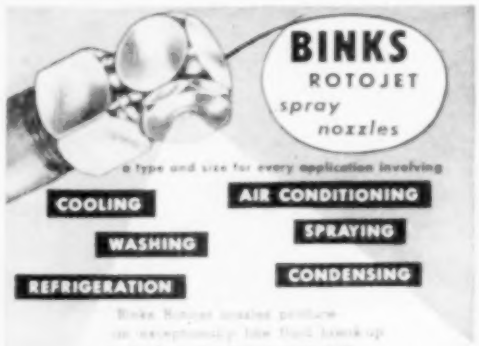
OHIO BRASS COMPANY . . . Mansfield 3, Ohio

AVAILABLE IN THE FOLLOWING SIZES

No. 20	Globe	125 lbs.	Non-Rising Stem	⅜" to 2"
No. 29	Globe	125 lbs.	Rising Stem	⅜" to 2"
No. 24	Gate	125 lbs.	Non-Rising Stem	⅜" to 2"
No. 8	Globe	150 lbs.	Rising Stem	⅜" to 1"
No. 7	Globe with seats	150 lbs.	Rising Stem	⅜" to 1"

Ohio Brass VALVES

▼ BREFITT—Identify by IEN - 2667 if you write the maker ▼



Binks Rotojet nozzles produce an exceptionally fine fluid break-up in the form of a hollow cone, with maximum efficiency at minimum pressure.

Designers and engineers appreciate their true comparisons, complete atomization and they proof characteristics, along with the fact they can be made in corrosion-proof metals for handling chemicals in special-purpose equipment.

Binks engineers will gladly assist with your design problems involving the use of spray nozzles.

Send today for your free copies of Bulletins 10 and 12, which describe Rotojet nozzles fully.

Binks MANUFACTURING COMPANY
3120-34 West Carroll Ave., Chicago 12, Ill.

▼ BREFITT—Identify by IEN - 2668 if you write the maker ▼

Write for Bulletin 1B-10

Can You Do Better

WITH ROLL-FORMED . . .

OR EXTRUDED METAL SHAPES?

For the lowest possible cost on light metal shapes, see what Werner can do for you. Send for the free bulletin.

Our recommendation will surely be unbiased, for we make *both* types . . . *extruded* shapes in aluminum, magnesium . . . *rolled* shapes in aluminum, stainless steel, brass, zinc, etc.

We custom make shapes to your order, and do such secondary fabrication as polishing, punching, drilling, slotting. Delivered in strips, coils or cut to exact lengths.

R. D. WERNER CO., INC.
295 Fifth Ave., New York 16, N. Y.
Manufacturers of Metal Extrusions and Rolled Shapes

▼ BREFITT—Identify by IEN - 2669 if you write the maker ▼

TAP BREAKAGE Reduced

The **DAHLSTROM TAP GUIDE** practically eliminates tap breakage and saves wasted hours getting broken taps out of expensive dies. It does the job in a jiffy with work always straight and true. Carry it over to your big work, or fasten it to a post, slip a Tap Adaptor into the spindle, and even an inexperienced operator can handle it. Equipped with 9 Adaptors, ranging from 8-32 to ⅝". Spindle has center in top end to go in tail stock of lathe, or use it as a tap extension for hard-to-get-at-places.

Write for Circular

$52.50 F. O. B. ST. PAUL

for **HAND TAPPING** *or* **LATHE USE**

DAHLSTROM MFG. CO.
2516 W. Larpenteur Ave., St. Paul 8, Minn.

Dahlstrom **TAP GUIDE**

▼ REFER—Identify by IEN-2670 if you write the maker ▼

TOTES MORE PAYLOAD at LESS COST . . .

LIGHT WEIGHT—Convoy Nesting Tote Box—weighs 50% to 60% less than steel . . . 2 cu. ft. size weighs only 7.2 lbs.

STRONG, DURABLE—Convoy Tote Boxes are made of chemically hardened corrugated board by an exclusive impregnation process . . . generally will support anything they will contain. Many of them have been in active duty use for more than two years. Annealed rim for rigidity . . . strong, comfortable handholes.

LOW COST—Convoy Nesting Tote Box costs 50% to 60% less than steel . . . so inexpensive that they can be expended when they finally become unserviceable.

More than 30 stock sizes of nesting boxes available now write for details

CONVOY, INC. CANTON 7, OHIO

▼ REFER—Identify by IEN-2671 if you write the maker ▼

SIMPLE HAND PRESSURE makes immediate bond between vinyl fabric and metal seat frames—both coated with 3M Adhesive EC 880. Adhesive holds against 30 to 60 pound tension when jig is removed.

Quick 3M adhesive grips tight against sixty pound tension!

Again a 3M Adhesive strips a few speed production, cut costs, by eliminating mechanical fasteners. The Comfort Cushion Company of Detroit cut production time almost in half with speedy 3M Adhesive EC 880.

Hundreds of other 3M adhesives, coatings and tapes are made by 3M. They're now ready to handle your fastening problem. Write today for free booklet, "3M Adhesives in Industry". Address: Minnesota Mining & Mfg. Co., Adhesives & Coatings Division, 411 Piquette Avenue, Detroit 2, Mich.

MINNESOTA MINING & MFG. CO. . . . Makers of Scotch Brand Pressure-Sensitive Tapes, Scotch Sound Recording Tape, "Underseal" Rustproof Coating, Scotch-lite Reflective Sheeting, "Safety Walk" Non-Slip Surfacing, 3M Abrasives.

ADHESIVES & COATINGS DIVISION: 411 Piquette Ave., Detroit 2, Michigan. General Offices: St. Paul 6, Minn.

General Export: Divine Abrasives Corp., New Rochelle, N.Y. In Canada: Canadian Dixie Abrasives Ltd., Brantford, Ontario.

▼ REFER—Identify by IEN-2673 if you write the maker ▼

TRUCK . . Hand lift hydraulic for single or double faced pallets

Source: REVOLVATOR CO.
2059 86th St., North Bergen, N. J.

Load rating is 2,500 lb. for this new pallet-loading combination of the company's previously developed tilting power lift truck and tilt. Rod (Link) handle hand truck. A load is lifted through the 8 in. maximum vertical movement by five or six strokes of the steering handle which can be positioned at any point around a complete circle. Lowering follows depressing of a foot pedal. Speed is subject to the operator's judgment.

Lowered height is 3¼ inches. Fork lengths are 32 to 60 in. in six steps. Overall width is 27 inches. Overall length is the same as the fork length plus 15½ inches. Mounting is on two 7 in. wheels at the operating end and on two 3¼ in. wheels under the forks. All are steel. Rubber tires are to order.

▼ REFER—Identify by IEN-2674 if you write the maker ▼

HEAT TREATING . . Powdered material to case harden parts made of soft steel

Source: MIRACALOY CORP.
50 Broadway, Room 1907, New York 4, N. Y.

Lists at 55 per pound

Hard N Deep trade name new material uses which steel parts are dipped after they have been heated to a cherry red. The material is a combination of powdered chromium and carbon with a catalyst. A combining, smelting and hardening action takes place. The parts that have been dipped are heated again to cherry red and then are quenched. Packaging is in 5 to 100 lb. containers.

▼ REFER—Identify by IEN-2675 if you write the maker ▼

PAINTING . . Paint spray gun made in 4 to 12 ft. extension lengths

Source: ECLIPSE AIR BRUSH CO.
388-92 Park Ave., Newark 7, N. J.

Model XE-T is a new design in the company's line of extension spray guns to which the operator is fitted with a four-trigger trigger to prevent operator fatigue. This unit and others making up the line are available in 4 to 12 ft. extension lengths in 2 ft. steps. The gun is designed for use on structures and in general maintenance in a plant. It also is available in a special design to paint pipe interiors.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ REFER—Identify by IEN-2676 if you write the maker ▼

New Method Gives Precise Control in Air Conditioning

NIAGARA "Controlled Humidity Method" Uses HYGROL, Hygienic Liquid Absorbent

● This new method gives complete control of temperature and relative humidity, holding maximum comfort, time or season. Gets at the roll of the years. Especially it provides for air at normal atmospheric temperatures with little or no refrigeration required.

The air is filtered and then enters a chamber where it passes thru a spray of "Hygrol" Liquid (Hygroscopic Material) that absorbs the air-borne moisture and carries it off or adds to it, as required. In the same chamber cooling coils remove the latent heat of evaporation and the sensible heat as required.

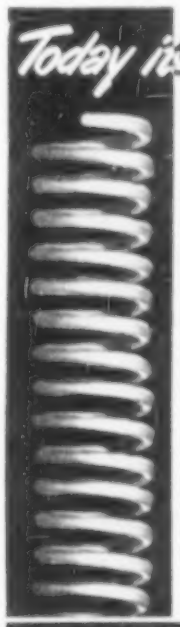
The absorbent liquid spray falls into a tank at the base. It is piped to a concentrator, removing moisture taken from the air. The reconcentrated liquid returns to the system. The process is continuous, and the apparatus operates always at full capacity.

This equipment is manufactured in units providing from 1,000 to 20,000 CFM of conditioned air.

Installations have been made in food and chemical process industries, in packaging hygroscopic products, for preventing condensation of moisture on metals and other products in storage, in air conditioning for laboratory control and for human comfort.

For further information, write Niagara Blower Co., Dept. EN, 405 Lexington Ave., New York 17, N.Y.

▼ REFER—Identify by IEN-2677 if you write the maker ▼



Today it's Roebling! for Oil-Tempered Spring Wire

A MANUFACTURER'S own tests are necessary . . . but how his product performs in the field is the real proof of the pudding. Records show that Roebling Oil-Tempered Spring Wire brings more fewer machine stoppages . . . cuts down repairs . . . reduces preparation time.

Roebling has one of the largest and most modern specialty wire mills in America. Special techniques and precision machines assure a wire that is absolutely uniform in mechanical and metallurgical properties . . . a wire that will improve your product and your production.

Have your Roebling Field Man help choose the right Oil-Tempered Spring Wire—in other round, flat or shaped wire—for top efficiency and economy. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

A CENTURY OF CONFIDENCE

▼ REFER—Identify by IEN-2678 if you write the maker ▼

TOE CONTROL ELIMINATES KNEE ACTION

Electric foot switch cuts operator fatigue.

HEAVY SHEARING MADE EASY

If you have spent a day at a shear with the old mechanical foot treadle, you know what knee action is. As the hours roll by it grows more and more tiresome, fatiguing, and production slips accordingly.

Steelweld has done something about it. Electric foot switches have been adopted as standard equipment. Knee action has been replaced by foot easy toe control.

Steelweld Shears are in a class by themselves. Sizes for cutting 1/8" to 1-1/2" plate to 10'-0" long.

STEELWELD POWER-BACK SHEARS CATALOG No. 1951

THE CLEVELAND CRANE & ENGINEERING CO.
4219 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▼ REFER—Identify by IEN-2679 if you write the maker ▼

KEEP ELECTRIC MOTORS On the Job!

IN FIFTY MAJOR INDUSTRIAL CENTERS from Maine to California, you'll find an outstanding Allis-Chalmers Certified Service Shop to give you *prompt, efficient motor power service*. The shop to which you go will be manned by an efficiency and excellent repair facilities. It will use nothing but factory approved methods and parts.

So next time you're looking for a way to cut lost production hours and get rolling again, fast . . . call the A-C Certified Service shop in your area. You'll get fast workmanship, fair prices, fast power.

ALLIS-CHALMERS, 909A SO. 70 ST.
MILWAUKEE, WIS.

ALLIS-CHALMERS A-C

FREE!!! Identify by IEN - 2680 if you write the maker

Precision Washers and Metal Stampings are made entirely to customers' specifications. Quadriga washers and stampings fit each particular job. This means greater efficiency and greater dependability for your product. Over 50 years of experience enables us to make recommendations for highest quality with economy. Any quantity, large or small. Prompt delivery. Phone or write.

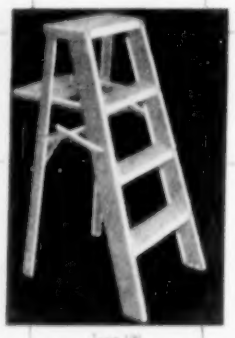
Quadriga Quality

THE QUADRIGA MANUFACTURING CO.

215 A W. Grand Ave. • Chicago 10, Ill.

FREE!!! Identify by IEN - 2681 if you write the maker

Here is why
ALCO-LITE
ALUMINUM LADDERS
Cost Less!



WRITE FOR INDUSTRIAL LADDER CATALOG

ALCO-LITE ALUMINUM LADDERS

ALUMINUM LADDER COMPANY

100 CARBIS STREET • WORTHINGTON, PENNA.

FREE!!! Identify by IEN - 2682 if you write the maker

NEW KENNAMETAL DISC FILE

• CUTS . . . Down & Grind
• SPEEDS UP JOBS
• SLASHES COSTS

For Use on Non-ferrous Metals and Plastics — to Snag Castings Cut Off Flashing, Face and Square Surfaces, etc.

KENNAMETAL Inc., LATROBE, PA.
MANUFACTURERS OF SUPERIOR CEMENTED CARBIDES AND CUTTING TOOLS THAT INCREASE PRODUCTIVITY

NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

FREE!!! Identify by IEN - 2683 if you write the maker

ADHESIVES . . . For transparent films, booklet includes chart on standard film characteristics

National Adhesives Div.
110 Madison Ave., Cor. E., New York 16, N. Y.

Identification, manufacturer, trade name, thickness, typical characteristics of transparent films are included in a 17½ by 12½-in. chart which forms part of new 20-page booklet, "Adhesives for Transparent Films." These films range from cellophane, cellulose acetate, polyethylene to vinyl halides and rubber compounds. Information in the booklet covers emulsion, lacquer and hot-melt adhesives.

FREE!!! Identify by IEN - 2684 if you write the maker

ALUMINUM . . . Suggestions on design in new 138-page booklet on aluminum extrusions

Reynolds Metals Co.
2502 S. 3rd St., Louisville 1, Ky.

"Designing with Aluminum Extrusions" is an interesting new booklet available only upon direct letterhead request to the company. It describes use of extruded aluminum sections to make products with a minimum of operations, shape design from a manufacturing standpoint, structural design considerations, joint design, dimensional tolerances, choice of alloy and temper, fabricating properties, cost factors. Drawings, photographs and tables accompany the text.

NOTE: No inquiries will be forwarded for this new booklet. Please make your request direct on company letterhead.

FREE!!! Identify by IEN - 2685 if you write the maker

BROACHING . . . Color sound film tells the story of a 5-ton broaching tool

Lapointe Broach Co.
[illegible] Greenfield, Detroit 24, Mich.

"Big Bro" is an new 16-mm. sound picture on a 5-ton broaching tool of the same name recently produced by the company. This tool, a six-station spline broach, measuring 40½ in. in length by 9½ in. in diameter. The film shows how it was made from a 1,521-lb. forging and how it is used to produce the 44 teeth spline in 10-in.-thick gears on a two-spindle clock-wise. Binding the tool in one stroke, on a 225-ton [illegible]

As Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 16

FREE!!! Identify by IEN - 2686 if you write the maker

F. J. LITTELL MACHINE CO.
4159 RAVENSWOOD AVE., CHICAGO 13, ILL.

FREE!!! Identify by IEN - 2687 if you write the maker

"NATIONAL"
SELF LUBRICATING BRONZE BEARINGS
Molded to Your Accurate Specifications

Our "DUCTILOY" bearings are made from a unique powder formula, perfected by "National" Engineers, that results in a bearing with properties possessed by no other bearing on the market. Our special alloy makes these bearings highly ductile and eliminates waste due to breakage at installation or from rough handling.

We are also very proud of our line of spherical bearings and of our hard won reputation for the delivery of intricate powdered metal parts, heretofore considered impossible to produce.

Applicable to all medium and light weight service, such as Automobiles, Electrical Appliances, Farm Equipment, Domestic Appliances, such as Sweepers, Refrigerators, Washers, Portable Electric Tools, etc., and Industrial Machinery.

LET US HELP SOLVE YOUR BEARING, BUSHING AND SHAFT SEALING PROBLEMS

We are equipped to handle your requirements in any quantity.

NATIONAL MOLDED PRODUCTS, INC.
Manufacturers of
Sintroy, Ductiloy and Tubeloy Bearings
1945 MILL STREET • ST. MARYS, PA.

FREE!!! Identify by IEN - 2688 if you write the maker

Are you paying too much for threaded fasteners in tonnage purchases?

TRIPLEX prices are RIGHT!

Write or wire your requirements
The TRIPLEX SCREW Co.
5311 Grant Avenue
Cleveland 5, Ohio

TRIPLEX for TOUGHNESS
CAP AND SET SCREWS • BOLTS, NUTS AND RIVETS

FREE!!! Identify by IEN - 2689 if you write the maker

When you take a printed reading . . . it's right!

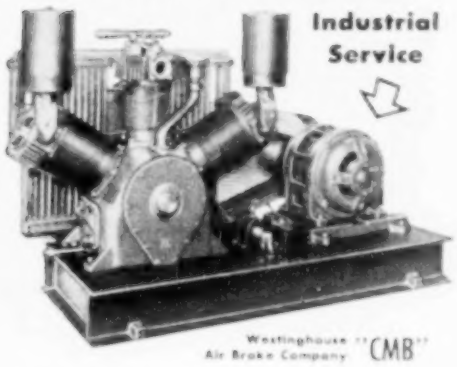
with fmc's PORTABLE COUNTER

Write for Bulletin 119

fmc
FOOD MACHINERY & CHEMICAL CORPORATION
Packing Equipment Division — Riverside, California

IEN-2690

Here's a Husky "He-Man" AIR COMPRESSOR for Industrial Service



Westinghouse Air Brake Company "CMB"

Handle tough assignments—designed for continuous operation at 150 lb. max. Two low-pressure, one high-pressure cylinder, forced feed lubrication system, self-contained oil flow. Automatic—may be arranged for "start and stop" or "continuous-running" and on-call operation. Displacements 120 to 202 C.F.M. Motor HP 20 to 40. Catalog 8002 [illegible]

Westinghouse Air Brake Co.

Industrial Division, Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

IEN-2691

= NO Down-Time

Plant Superintendent looks at MONARCH SOLID TIRES

No down time for tire maintenance—right! But that's only part of the story. Monarch Solid Tires have an extra long service life so they lower materials handling costs that way, too. They're tough, stable, sure-footed, and they can't puncture—Monarch-equipped vehicles go anywhere in the plant.

Monarch specialization pays off for you in better industrial tires, including such special types as Monarch Easy Roll, Cushion, Static Conductor, and Neoprene Tires.

Write for specific information on the use of Monarch Solid Tires in your plant. THE MONARCH RUBBER CO., 281 Lincoln Park, HARTVILLE, OHIO.

Specify Monarch Solid Tires on your industrial vehicles. Replacement tires available from the manufacturers of your equipment.

MONARCH

Specialists in Industrial Solid Tires and Molded Mechanical Rubber Goods

NEWS NOTES—Continued

"How to make precision castings"

IEN-2693

CALCULATING . . . Cardboard slide unit to use for electrical resistance calculations

[illegible]

"Redesign" [illegible]

IEN-2694

CASTINGS . . . Useful information on precision castings and how they are made

[illegible]

Operating procedure [illegible]

IEN-2695

CHEMICALS . . . Five booklets on glycerine describe its applications in various process fields

[illegible]

"Why Glycerine?" [illegible]

The other four booklets [illegible]

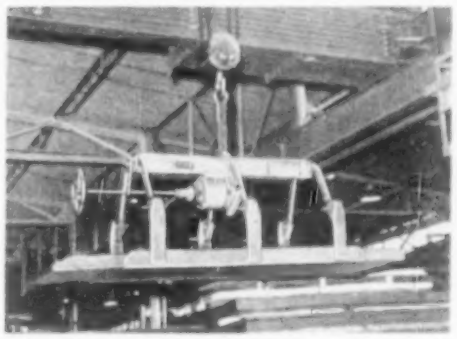
IEN-2696

COMPRESSORS . . . Useful technical data and charts on the compressibility of real gases

[illegible]

Research Bulletin P-1011 [illegible]

[illegible] IEN-2697



Save Time . . . Save Sheets

Handle tons of bundled sheets with one use of these C.F.I. Clips and you save UMS and [illegible] because C.F.I. Clips [illegible] and [illegible] handle more sheets [illegible] faster and more economically. Tying wires go [illegible] and design features like wide bearing surface give full protection to sheet edges. And [illegible] of C.F.I. Clips permits [illegible] shipping of [illegible] more efficient use of storage facilities. C.F.I. Clips are available in [illegible] from 1 to 30 [illegible] in standard or [illegible] designs.

WRITE FOR THE BULLETIN [illegible] OFFER!

CULLEN-FRIESTEDT CO., CHICAGO 23, ILL.

CULLEN-FRIESTEDT CO., 1310 So. Kilbourn Ave., Chicago 23, Ill.

IEN-2698

PRECISION IN A SMALL PACKAGE

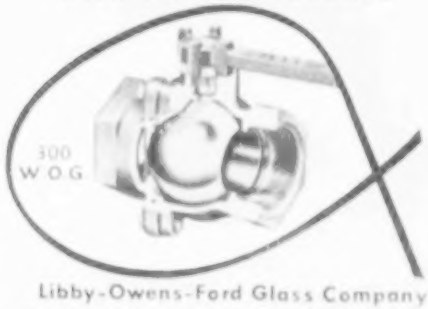
EX-CELL-O precision means longer life more accurate performance greater economy in DRILL JIG BUSHINGS. For list of large stock of A.S.A. standard sizes available write for your copy of Ex-Cell-O Bulletin No. 11882-B.

XLO

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

IEN-2699

operated 350,000 times with no maintenance



Libby-Owens-Ford Glass Company obtains outstanding results with Rockwood Ball Valves - Only Valve to stay in service over a year

[illegible] Rockwood Valves were used in one [illegible] in the [illegible] and [illegible] lines. Ball Valves were [illegible] 24 hours a day, 7 to 8 days a week and approximately 1,000 times a day, depending on the [illegible] Company [illegible]. Now service was [illegible] [illegible] of normal gauge in this [illegible] 8 years.

Write for bulletin V-4 today

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 2, MASS.

IEN-2700

A.L. HANSEN MFG. CO.
5051 RAVENSWOOD AVE., CHICAGO 40, ILL.

BREFITT—Identify by IEN - 2701 if you write the maker

KLING Rotary Shear

DOES THE WORK OF 4 MACHINES

A VERSATILE SHEAR

for Versatile Work with Hairline Precision

The Kling Rotary Shear embodies the latest development in sheet and plate cutting — especially recommended for:

- Air conditioning
- Appliances
- Automotive
- Aviation
- Boiler Shops
- Heating & Ventilating
- Laser Cutting
- Maintenance
- Metal Specialties
- Petroleum
- Railroads
- Shipbuilding
- Steel Warehouses
- Trucks

Send Today for Free Bulletin 241

KLING BROS. Engineering Works

PUNCHES, BAR & ANGLE SHEARS, COMBINATION SHEAR, PUNCH & COPERS, BENDING ROLLS, HIGH SPEED FRICTION SAWS & GRINDERS

1326-18 N. Kostner Avenue, Chicago 52, Illinois, U. S. A.

BREFITT—Identify by IEN - 2702 if you write the maker

High Air Capacity . . .
Unmatched In Low Air Cost

JOY WN-114 COMPRESSOR

The WN-114 is a four cylinder, two-stage compressor featuring JOY "Dual-Cushion" Valves for top efficiency. Single units (above) produce from 1092 to 3656 CFM, twin units up to 7312 CFM. The JOY line of stationary compressors, starting at 81 CFM, includes the most modern machines available for either centralized or decentralized air supply. *Write for Bulletins.*

Consult a Joy Engineer

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

BREFITT—Identify by IEN - 2703 if you write the maker

TRY
FIBREX RED WHEELS

for
WELD GRINDING
FINISHING
CLEANING
CUTTING

SIMONDS ABRASIVE CO.

SIMONDS ABRASIVE CO. 5512 TACONY ST. PHILA 37, PA
DISTRIBUTORS IN ALL PRINCIPAL CITIES

NEWS NOTES—Continued

"Book on rigging essentials"

BREFITT—Identify by IEN - 2704 if you write the maker

CONSTRUCTION . . . Color sound film on fabrication and erection of structural steel

American Institute of Steel Construction
101 Park Ave., 15th Fl., New York 17, N. Y.

"Built with Steel" titles new 20-min. 16-mm. sound color motion picture based on the story of a father and son who early as a building contractor business. It shows steps involving fabrication of structural steel, erection on the site, use

BREFITT—Identify by IEN - 2705 if you write the maker

CUTTING . . . Application chart recommends grade of carbide for an intended use

Adamas Carbide Corp.
1002 S. 4th St., Harrison, N. J.

Fourteen specific carbide applications are listed in revised letter-size chart such as chip removal, wear resistance, impact resistance. Alongside these are given the grades of carbide recommended by nine manufacturers. A feature is a set of symbols to designate each application. Ask for Form D, "Carbide Manufacturer's Grade Recommendations."

BREFITT—Identify by IEN - 2706 if you write the maker

DIE CASTING . . . Annual award for work that advances die-casting progress

American Die Casting Institute, Inc.
366 Madison Ave., New York 17, N. Y.

Closing date for nominations and supporting evidence is April 30 on the annual Doehler Award of the Institute. This award consists of a plaque and $500. It is given to individuals or groups who in the Institute's judgment have made an outstanding contribution to the casting

BREFITT—Identify by IEN - 2707 if you write the maker

DRIVES . . . Selection data and examples in catalog on herringbone-gear speed reducers

D. O. James Gear & Mfg. Co.
1136-42 W. Monroe St., Chicago 7, Ill.

Catalog 40-B includes rating tables, instructions and examples on how to select a continuous tooth herringbone-gear parallel shaft speed reducer with ratio of 2 to 300 to 1 and to capacities to 3,000 hp. Dimensions and weights are given in 14 pages on single, double and triple-reduction assemblies.

BREFITT—Identify by IEN - 2708 if you write the maker

HANDLING . . . Book on rigging for both the plant man and the professional rigger

McGraw-Hill Book Co.
330 W. 42nd St., New York 18, N. Y.

"Handbook of Rigging" titles new 328-page book written by W. E. Rossnagel, Safety Engineer with Consolidated Edison Company of New York. List price is $4.75. Non-technical language, drawings and photographs are employed for topics such as rope, chains, hooks, slings, structural wood, scaffolding, life belts, ladders, cranes, hoists, derricks, jacks, rollers.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 50

BREFITT—Identify by IEN - 2709 if you write the maker

NEW! NEW! NEW! NEW! NEW!

Geneva
ECONO-MOLD
RUBBER TIRED
CAST WHEELS

SEND FOR BULLETIN 1249

GENEVA WHEEL CO.
1255 RAILROAD ST.
GENEVA, OHIO

50 YEARS OF WHEEL DESIGNING AND MANUFACTURING

BREFITT—Identify by IEN - 2710 if you write the maker

It can't happen WITH PROTECTRON

Protectron prevents costly tool and die breakage. Senses oversized or overhard stock, "pile-ups", and tool dullness. Automatically trips the machine at the slightest mechanical overload from whatever cause before damage occurs. Further, Protectron cuts costly down time and lengthens tool life up to 300%. New Protectron model covering all loads is now ready for delivery.

WRITE FOR DETAILS OF FREE TRIAL

The Brinnell Company
GRANBY, CONN.

BREFITT—Identify by IEN - 2711 if you write the maker

YOU CUT YOUR HANDLING COST WITH
Pittsburgh
CARGOTAINERS

Day after day more products are carried all the way from original manufacture to assembly line . . . in sturdy, scientifically-built *Cargotainers* thus completely saving the cost of rehandling. Whether you use Cargotainers for products you make for others or for parts you buy for assembly, you benefit equally, because Cargotainers ship, store, move to assembly and collapse for return . . . all with the same facility. Write for full details today to Pittsburgh Steel Products Company, Dept. IEN, Grant Building, Pittsburgh 30, Penna.

CARGOTAINERS
by
Pittsburgh Steel Products Company
Subsidiary of Pittsburgh Steel Company
Pittsburgh 30, Pa.

▼ BREEZE—Identify by IEN-2713 if you write the maker ▼

This hydraulic direct-acting gas thermostat serves a wide variety of uses from chicken brooders to industrial ovens and heating equipment, with temperature ranges not exceeding 550° maximum. Requires no electric connection, relay or solenoid valve. Simple to install, low in cost, very accurate, dependable in operation.

Write for complete information

In home and industry, EVERYTHING UNDER CONTROL

Robertshaw

THERMOSTAT DIVISION

ROBERTSHAW-FULTON CONTROLS COMPANY

YOUNGWOOD, PENNSYLVANIA

▼ BREEZE—Identify by IEN-2714 if you write the maker ▼

▼ BREEZE—Identify by IEN-2715 if you write the maker ▼

The **MODERN ELECTRIC FURNACE**

FOR HEAT TREATING AND ANNEALING, FUSIONS, IGNITION OF PRECIPITATES, RESEARCH ON HEAT TREATMENT, INCINERATIONS, OPTICAL GLASS HEAT TREATING, ETC.

1. MAGIC TRIGGER CONTROL: [illegible]
2. MODELLA ELEMENTS: [illegible]
3. LARGE PYROMETER: Easy to read, with extra [illegible]
4. EXTRA HEAVY INSULATION: [illegible]
5. MADE ENTIRELY [illegible]

MODERN ELECTRIC LABORATORY
6131-33 SO. WENTWORTH • CHICAGO 21C, ILL.
Manufacturers of Electric Furnaces • Ovens • Kilns • Sterilizers

NEWS NOTES—Continued

"How to figure machine tool savings"

▼ BREEZE—Identify by IEN-2716 if you write the maker ▼

EMPLOYMENT . . . Bulletin lists jobs for scientists and engineers, free to employers

[illegible]

You are invited to be one [illegible] the [illegible] bulletin is issued every two or three weeks on a subscription basis to the readers. Looking for employment, specification information are wanted in you on receipt [illegible] without disclosing your identity. The service is for scientists, engineers, designers in a number of specific fields throughout the country. The price of a single copy of the 8-page bulletin is 50 cents. Please address the Association [illegible]

▼ BREEZE—Identify by IEN-2717 if you write the maker ▼

HEAT TREATING . . . Wall chart in color shows working characteristics of steels to 2,900 deg. F.

[illegible]

Fourth printing is announced for the company's chart, "Basic Guide to Ferrous Metallurgy", originally described IEN-3409-47. It is available upon letterhead request direct to the company. The chart is printed in 34 colors to show tot[illegible] body radiant [illegible] from [illegible] 200 to [illegible] 2,000 deg. F. with temperature as 100 vertical scale. Diagrams show [illegible] for preheating, stress relieving, annealing, [illegible] forging, forming, melting. The chart measures 60½ by 31 in. [illegible] a washable plastic face.

▼ BREEZE—Identify by IEN-2718 if you write the maker ▼

MANAGEMENT . . . Machine tool arithmetic outlined in booklet on how to figure net return

National Machine Tool Builders' Association
[illegible] Carnegie Ave., Cleveland 8, Ohio

If you are contemplating the purchase of a new machine tool, you may be interested in the new booklet by NMTBA which shows how to compute the savings resulting from its [illegible]. This booklet, "Computing Return on Invested Capital", shows how a simple-to-use method which takes into account [illegible] cost, depreciation allowances, federal income taxes, [illegible] and [illegible], obsolescence or replacement. It includes a quick work-sheet.

▼ BREEZE—Identify by IEN-2719 if you write the maker ▼

METALS . . . Technical data bulletin on heat-resistant stainless steel-copper clad metal

American Clad Metals Co.
P. O. Box 594-A, Carnegie, Pa.

New loose-leaf data bulletin, "Rosalyn Metal for Heat Resisting Applications", assembles a variety of technical information in its 43 sheets. It describes the copper-core stainless-clad or Inconel-clad metal as to lateral thermal conductivity, oxidation resistance, embrittlement, physical constants, fabricating procedures.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 30

▼ BREEZE—Identify by IEN-2720 if you write the maker ▼

NEW WIDE **TAPECOAT** SOLVES CORROSION PROBLEMS ON APPLICATIONS LIKE THESE

- Joint coating on large diameter pipe
- Protection of large pipe bends
- Wrapping mechanical couplings
- Patching transmission lines

Tapecoat, the coal tar enamel or bands, tape form, is now available in 18 and 12 inch widths in addition to the usual tape form in 6 inch or 4 inch widths. This makes Tapecoat the practical answer for protective pipe coating from the smallest to the largest pipe. Write for Tapecoat bulletin and price.

The **TAPECOAT** *Company*
1523 Lyons Street
Evanston, Illinois

▼ BREEZE—Identify by IEN-2721 if you write the maker ▼

▼ BREEZE—Identify by IEN-2722 if you write the maker ▼

▼ BREEZE—Identify by IEN-2723 if you write the maker ▼

IEN-2724

WIRE CLOTH

WISSCO WICKWIRE SPENCER STEEL DIVISION CLINTON, MASSACHUSETTS

CALWICO THE CALIFORNIA WIRE CLOTH CORP. OAKLAND, CALIFORNIA

CF&I

DIVISIONS OF THE COLORADO FUEL AND IRON CORPORATION, DENVER, COLORADO

IEN-2725

DRESSER "NO-THREAD" FITTINGS

IEN-2726

Here's Your Answer To Any Wire Rope or Chain Fitting Problem!

LAUGHLIN

FREE!!! Send the coupon ... no cost or obligation

THE THOMAS LAUGHLIN CO.
Dept. 11 Portland 5, Maine

NEWS NOTES—Continued

"Two booklets on fabricating plastics"

IEN-2727

MOTORS — Eight-page selection guide on small motors by type, characteristics, uses

IEN-2728

NICKEL ALLOYS — Factors in metal selection for corrosion-resisting service described in booklet

"Corrosion and the Final Choice"

IEN-2729

PLANT SITES — Set of data folders describes the State of Ohio as a plant location

Six 1-page folders

IEN-2730

PLASTICS — Fabricating suggestions in new specification book on laminated plastics

"Data for Industry"

IEN-2731

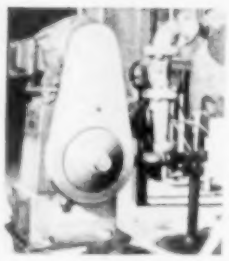
PLASTICS — Fabrication of polyesters described in new 8-page instruction booklet

Machining and working

All Makers of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 30

IEN-2732

HIGH VACUUM PUMPS for PROFITABLE OPERATION



HIGH VACUUM pumping requires vacuum pumping equipment to provide the low pressures required for efficient and profitable process.

Stokes high vacuum Mechanical Pumps provide the necessary low pressures, they combine simplicity of design, high efficiency, low power consumption and low operating costs. Easily installed with low upkeep and maintenance.

F. J. STOKES MACHINE CO.
5526 TABOR ROAD
PHILADELPHIA 20, PA.

FJS

F.J.STOKES MACHINE COMPANY

IEN-2733

RELIANCE V★S DRIVE

NEW!

for Thousands of Additional Applications of

ADJUSTABLE-SPEEDS from A-C. CIRCUITS

• Here is a simple, space-saving, low-cost All-electric Adjustable-speed Drive embodying the same fundamental principles employed in the design of thousands of Reliance V★S Drives for over 15 years. Machine builders or machine users, it will pay you to have all the facts on this important extension of the V★S line. Write today for Bulletin D-2101.

RELIANCE ELECTRIC & ENGINEERING COMPANY
5972 IVANHOE ROAD CLEVELAND 10, OHIO

Sales Offices in Principal Cities

IEN-2734

CUT PIPE THREADS CLEANER, BETTER, WITH LESS TIME AND LESS EFFORT

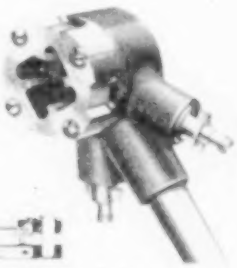
with the REED

REMOVABLE HEAD, SELF-FEEDING RATCHET THREADER

No pushing! Patented double-threaded thread leads die onto pipe.

Exclusive double-pawl ratchet cuts last motion in half.

Positive-locking, quick-change heads will not fall out.



Commercial chasers supplied with sets of 2 or more heads.

Remember — In a vise or pipe tool if it's a REED it's RIGHT

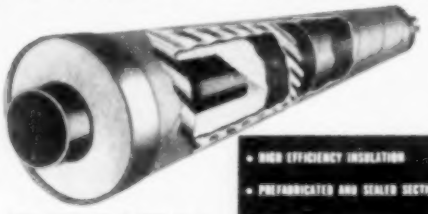
REED TRADEMARK

MANUFACTURING COMPANY
ERIE PENNSYLVANIA

IEN-2735

ALL THESE ADVANTAGES ARE EXCLUSIVELY YOURS WITH

RIC-WIL PREFABRICATED INSULATED PIPING **SYSTEMS**



- HIGH EFFICIENCY INSULATION
- PREFABRICATED AND SEALED SECTIONS
- FLEXIBILITY IN INSTALLATION
- PREFABRICATED ACCESSORY UNITS
- DEPENDABLE LONG LIFE

RIC-WIL

OVERHEAD THE RIC-WIL COMPANY CLEVELAND 5 UNDERGROUND

IEN-2736

PLATEGRIP

PLATE FASTENERS FOR CONVEYOR BELTS

Make strong dust-tight, water-tight joints in belts of any width. Special design spreads tension uniformly across belt, allow natural troughing of belt and assures smooth operation over flat, crowned or take-up pulleys. Sizes for belts of from 1/4" to 1 1/2" thickness. *Write for Catalog Sheet.*

ARMSTRONG BRAY & CO.
5380 Northwest Highway • CHICAGO 30, U.S.A.

IEN-2737

Pi announces a new gauge for highest vacuum

THE DPA-38 IONIZATION GAUGE CONTROL CIRCUIT BRINGS YOU 3 BIG NEW FEATURES

1 Increased Sensitivity of the Circuit

2 New Direct-Reading Scale

3 Heavy-Duty Adjustable Automatic Relay

VACUUM EQUIPMENT DEPARTMENT
DISTILLATION PRODUCTS *industries*
761 RIDGE ROAD WEST ROCHESTER 3 N.Y.
Division of Eastman Kodak Company

NEWS NOTES—*Continued*

Deferred payment plan for power

IEN-2739

PLASTICS — Useful information on how to extrude Tenite shapes and sheet

New third edition

IEN-2740

PRESSES — Deferred payment plan announced for company's line of power presses

Details are given

IEN-2741

PRINTING — Sound color film on how blueprints and photocopy prints are made

If you use blueprints

IEN-2742

RIVETING — Sequence diagrams show operation of hydraulic riveting equipment

New Bulletin 140

All Makers of Items And All Other Products Are Listed in THOMAS REGISTER *Descriptions Ratings* *See Page 10*

IEN-2743

Superior STEAM GENERATORS

IEN-2744

YOU CAN BE SURE... IF ITS Westinghouse

The MOTOR SENTINEL

Westinghouse
MANUAL MOTOR STARTERS

IEN-2745

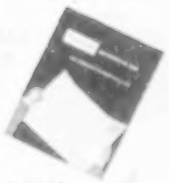
ANNOUNCING

Kodagraph Autopositive Film

...a new intermediate material that combines a high-contrast photographic emulsion and Kodak's famous safety film base.

- It gives you [illegible]
- It [illegible]
- It [illegible]
- It [illegible]
- It [illegible]

Write today

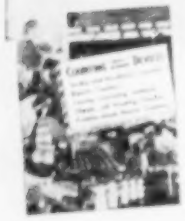


EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

▼ BREEZIT—Identify by IEN - 2747 if you write the maker ▼

PHOTO-ELECTRIC (ELECTRIC-EYE) COUNTING



You can count anything from chad-ties to box cars: parts, oranges, bottles, sheets, cans, cases, etc. with Wizard Electric Counters and Photo-electric units, relays or any suitable switches. Speeds to 600 CPM. Rugged built for heavy duty service. Easily installed in groups for Centralized Production Control. Can be located at any distance from actual source of count. Many other features.

For recommendations just tell us what you want to do. Catalog of Mechanical and Electric Counters on request.

Production Instrument Company

700-10 W. JACKSON BLVD., CHICAGO 6, ILL.

Representatives in Principal Cities

▼ BREEZIT—Identify by IEN - 2748 if you write the maker ▼

DILLON *Universal* TESTER

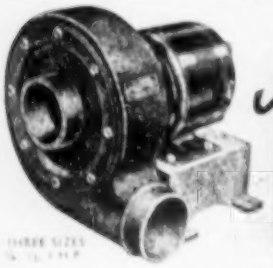
Capacities from as low as 250 lbs. up to 10,000 lbs.—all in the same tester! A low-priced precision instrument for TENSILE-COMPRESSION-TRANSVERSE-SHEAR testing. Handles rounds, flats, special shapes. Motorized or hand operated, weights only 137 lbs. Calibrated with Morehouse Ring certified by U. S. Bureau of Standards. A lifetime tester for shop or lab. In use by leading companies everywhere. Write today for 8-page bulletin in color!

WRITE FOR ILLUSTRATED BULLETIN

W. C. DILLON & CO., INC. 5610 W. 67th STREET, CHICAGO 38, ILLINOIS, U. S. A.

▼ BREEZIT—Identify by IEN - 2749 if you write the maker ▼

READY TO RUN—IMMEDIATE DELIVERY!



Sutton MOTOR DRIVEN **PRESSURE BLOWERS**

THREE SIZES ½, 1½, 3 H.P.

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY

CENTRIFUGAL TYPE designed to deliver an even, non-pulsating flow of air for blowing or exhausting. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. • Housing, base, support, and impeller are constructed of cast aluminum alloy to reduce weight and increase strength. Straight wall construction reduces windage and increases efficiency. • Powered by standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor in choice of open or totally enclosed types. Three sizes, ½, 1½ and 3 H.P. with capacities from 100 to 800 cu. ft. per min. at static pressures from ½" to 8".

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Co. 112 W. WILSON AVENUE NORFOLK, VIRGINIA

▼ BREEZIT—Identify by IEN - 2750 if you write the maker ▼

CHIPPING . . Pneumatic hammer in five sizes and three power ratings

Source: INGERSOLL-RAND CO.
746 Morris Ave., Phillipsburg, N. J.

Controlled Power introduces a new line of pneumatic chipping hammers in which there are five sizes measuring 12 to 16½ in. in length and weighing 12½ to 35½ lb. in a pistol design.

The line includes a retained design in which the chisel is prevented from coming out. These units measure 15 to 18 in. in length and weigh 14 to 17 pounds. The hose connection in each case is threaded for ¾-in. pipe. Each of the three sizes can be altered to provide actions known as Normal, Extra and Super cut so actually the line contains fifteen choices for given work.

Smooth operation and metering action are provided by the Airtle valve. Wear is minimized in the critical parts by a surface treatment known as Transe. An exhaust deflector on the barrel can be turned to direct the exhaust air.

▼ BREEZIT—Identify by IEN - 2751 if you write the maker ▼

LUBRICATING . . Silicone emulsion for plastics and rubber mold release

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

No residue left in mold

G.E. 81161 is a new emulsion to be diluted and sprayed on the surface of molds employed in manufacture of products such as rubber heels, soles, tires, rubber and vinyl floor tile, plastic parts. The emulsion results in free release of the finished products and assists in eliminating gas pockets. It will not discolor the work or clog nozzles in the spray equipment used with it. It can be employed to 250 deg. F.

▼ BREEZIT—Identify by IEN - 2752 if you write the maker ▼

PROTECTING . . Coated fabric hood guards against acids, oils, solvents

Source: GENERAL SCIENTIFIC EQUIPMENT CO.
2785 W. Huntingdon St., Philadelphia 32, Pa.

New hood is made of a rubber-coated fabric and is equipped with a plastic window. It protects a worker's face, head and neck against dangerous spray or splash around acid storage tanks, pipe lines, in degreasing, pickling, electroplating, paint spraying, sand blasting operations. It can be worn with goggles or respirator when the protection thus afforded is required, also.

The assembly includes an inverted supporting frame. List price of the new hood is $5.00.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREEZIT—Identify by IEN - 2753 if you write the maker ▼

The most versatile fixture for quick accurate indexing... **SUPER-SPACER**

This fixture allows rigid control of accurate machining operations within its scope at speeds and feeds limited only by the capacity of the holding means and the power of the machine. Standard mask plates have 2, 3, 4, 6, 8, or 12 divisions. Specials made to order. All Super-Spacers come complete with mask plates, Universal chuck and chuck wrench. Write for Bulletin S-101.

HARTFORD *Special*

The HARTFORD SPECIAL MACHINERY Co., Hartford 5, Conn.

▼ BREEZIT—Identify by IEN - 2754 if you write the maker ▼

Engineers Want to Know
Cleaning Room Men Want to Know . . . . .

WHAT IS "T" SHOT AND GRIT?

The first major improvement in Chilled Iron Abrasives in 76 years

T SHOT and GRIT offer:
up to 88% longer abrasive life
up to 83% longer blade life
rapid cleaning action
30% to 50% lower total cleaning and maintenance costs

COST? No more than ordinary chilled abrasives.

For complete information contact Hickman-Williams Co.

Manufactured by NATIONAL METAL ABRASIVE CO., Cleveland, Ohio
WESTERN METAL ABRASIVES CO., Chicago Hts., Ill.

Hickman, Williams & Company INCORPORATED

CLEVELAND • NEW YORK • INDIANAPOLIS • CHICAGO • PITTSBURGH
CINCINNATI • ST. LOUIS • PHILADELPHIA • DETROIT

▼ BREEZIT—Identify by IEN - 2755 if you write the maker ▼

WRITE TODAY FOR FREE SAMPLES OF ALCOA ALUMINUM FASTENERS

You can beat joint corrosion before it starts. Specify Alcoa Aluminum Fasteners and you'll prevent the galvanic corrosion that can result when dissimilar metal fasteners are used with aluminum assemblies. Beyond common corrosion, too—you'll stain surfaces with red rust-streaks.

You get a better-looking aluminum product with Alcoa Fasteners that stay bright and attractive. Now available with Phillips head, which drive fast and sure, add a decorative touch.

Wood, sheet metal and machine screws available, with a variety of head styles, standard sizes and lengths. Bolts, nuts and washers. Write on your letterhead for samples to ALUMINUM COMPANY OF AMERICA, 2170 Gulf Bldg., Pittsburgh 19, Pa.

ALCOA *Aluminum* FASTENERS

REFIT—Identify by IEN - 2757 if you write the maker

Slash Fastening Costs on LIGHT SHEET METAL ASSEMBLIES!

PALNUT TRADEMARK
WASHER TYPE SELF-LOCKING NUTS

Handle ONE part instead of THREE

Inexpensive, one-piece PALNUT Washer Type Self-Locking Nuts perform the same function as an ordinary nut, lockwasher and plain washer combined. You not only save parts and handling operations, but power drivers may be used to further speed up assembly. The famous PALNUT Double-Locking action holds tight under vibration. Built-in washer spans holes and slots. Wide range of sizes available. Send details of assembly for samples. Ask for literature on entire PALNUT line.

The Palnut Co.
19 Gordon St., Irvington 11, N. J.

PALNUT SELF-LOCKING NUTS AND FASTENERS for quick, secure fastening at low cost

REFIT—Identify by IEN - 2758 if you write the maker

Put these advantages in your product with *Marvinol*® VR-10

In hundreds of processes . . . in thousands of end products, Marvinol VR-10 is giving processors the characteristics that mean sales. Marvinol formulations are stable under heat, light and time . . . have high dimensional stability, greater low-temperature flexibility, outstanding resistance to heat, water, oils and acids. Let us show you how to utilize Marvinol's time-saving advantages. All technical information developed in our modern laboratories is at your disposal since it is through our that Marvinol reaches the consumer.

Write today for the latest technical information. Dept. 1-D, Naugatuck Chemical, Naugatuck, Conn.

Marvinol

Naugatuck Chemical

DIVISION OF U. S. RUBBER COMPANY

REFIT—Identify by IEN - 2759 if you write the maker

LEIMAN AIR PUMPS

If You Have to Handle Materials Let Leiman Air Pumps Do the Job

If you have to hold, lift, move, separate, or dispose of materials such as paper, plastics, light metals, etc. let air do the job easily and economically . . . install one or more Leiman Rotary Positive Air Pumps.

A unique feature of Leiman Air Pumps is that they take up their own wear. There is nothing to wear or give out. Simple in design and ruggedly constructed to precision standards, they are made to give years of trouble-free service. *Send today for descriptive Catalog 275-E.*

AIR MOTORS • GAS BOOSTERS • DUST COLLECTORS • SAND BLASTS

LEIMAN BROS. INC. 186-191 CHRISTIE STREET NEWARK 5, NEW JERSEY

REFIT—Identify by IEN - 2760 if you write the maker

FEEDING . . Diaphragm pump, metering design, to control liquid feed

Source: LAPP INSULATOR CO.
300 Gilbert St., LeRoy, N. Y.

New pumping head made of chemical porcelain and a new variable delivery control for actuation by pneumatic instruments have been added to the company's Pulsafeeder line of proportioning pumps. Four sizes of head rate 12 to 320 gph. The variable control, known as Auto-Pneu-Matic, operates with any size of pump and acts to keep feed action in accurate step with changing conditions as signaled through any standard pneumatic control instruments.

Hydrochloric acid in any concentration, mixed acids, metallic salt solutions, chlorinated hydrocarbons and processing feed that requires freedom from metallic ion contamination, are representative applications for the new porcelain head. The assembly includes the connector, valves and valve bearings and suitable armored outer protection against heat and mechanical shock. The diaphragm, valve seats, bumpers and gaskets are mostly provided in chemically-inert plastics such as Teflon or Kel-F.

The new control mounts on the main pump housing, connects to the stroke adjustment to position it in step with requirements, making any required changes while the pump is in operation. The control is shown in position in the main portion of the illustration.

REFIT—Identify by IEN - 2761 if you write the maker

SCREW DRIVING . . Vertical machine, motor drive, magazine fed, air operated

Source: SHAKEPROOF INC.
2503 N. Keeler Ave., Chicago 39, Ill.

Screw sizes ranging from No. 1 to ¼ in. to ¼ by ¾ in. can be handled and driven to adjustable predetermined torque by this new machine. It is suited particularly to drive the company's thread-cutting screws for assembly in metal parts and to set the Setna pre-assembled fasteners. Floor space measures 21 by 24 inches. Weight is 240 pounds. Operation is on 110 volt ac. to the motor and on compressed air from a shop supply to the spindle feed.

Operation involves filling the hopper with the size of screw to be driven, setting the required adjustments for this size, starting the drive motor, placing the work and depressing the foot-operated pneumatic valve. The spindle will then travel down with a screw from the magazine chute, will drive it and disengage on reaching the predetermined torque. Releasing the valve causes the spindle to retract for the next cycle. A change in size of screw and a new setup can be made by an experienced operator in about 20 minutes. Driving speed hitters can get second in the smallest sizes.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER — Descriptions — Ratings — See Page 50

REFIT—Identify by IEN - 2762 if you write the maker

"Industrial"

INDUSTRIAL GEAR MFG. CO.
4521 VAN BUREN STREET CHICAGO 24, ILLINOIS

REFIT—Identify by IEN - 2763 if you write the maker

NOW! REDUCE MATERIAL COST

BUT GET PERFECT STAINLESS PROTECTION

with PERMACLAD
STAINLESS CLAD STEEL

PERMACLAD combines the surface characteristics of stainless steel with the forming qualities of carbon steel to improve case appearance, provide continuous resistance and cut forming costs. You can save from PERMACLAD with sheet—subject to the deepest draws without intermediate annealing—actually form it into products impossible with more other materials.

Hundreds of products from chemical and food processing equipment to automotive bumpers and show cases are being fabricated from PERMACLAD. Write for more information and FREE 8-page technical data folder P-4.

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

REFIT—Identify by IEN - 2764 if you write the maker

STOP MOISTURE DAMAGE

Kemp Dynamic Dryers solve moisture control problems—combine dependable operation with low operating cost!

Yes, no two ways about it, Kemp Dynamic Dryers *control* moisture at rock bottom prices. For example, a Kemp cool drying gas may cost you as little as ¼ cent per mcf! And that ¼ of a cent includes all labor and utility costs—plus the cost of the equipment amortized over a five-year period! But low operation cost is not part of the Kemp story.

SIMPLE OPERATION

Kemp Dynamic Dryers are flexible . . . offer manual and automatic or automatic operation. Desiccant is especially selected and compounded for the particular duty. Units are available for drying air, gases or liquids . . . for controlling humidity in large or small areas. Choose gas, electric or steam regeneration with or without cooling units.

GUARANTEED PERFORMANCE

No matter what your moisture control problem may be . . . specify Kemp first. Chances are there is a standard design that will be ideal for your plant and at the same time save you money! Performance to your specifications is guaranteed! For full information mail coupon for special bulletin.

KEMP OF BALTIMORE — *DYNAMIC DRYERS*

CARBURETORS
BURNERS
FIRE CHECKS
ATMOSPHERE & INERT GAS GENERATORS
ADSORPTIVE DRYERS
METAL MELTING UNITS
ENGRING EQUIPMENT
SPECIAL EQUIPMENT

THE J. M. KEMP MFG. CO., Dept. A-3
405 E. Oliver St., Baltimore 2, Md.
Gentlemen: Please send me information
Bulletin D-27. We want the facts on drying . . . gas . . . liquids
Name
Company
Address
City Zone State

IEN 2766

Spray Nozzles

HIGH PRECISION INDUSTRIAL TOOLS

Every spray nozzle manufactured by Spraying Systems Co. is designed and accurately manufactured to meet exact specifications in spray volume, atomization, impact and pattern at any given pressure. That's why Spraying Systems nozzles are doing such effective cost cutting jobs on every recommended application. Find out what they can do in your plant. Write today for General Catalog 22 and Pneumatic Atomizing Catalog 23.

SPRAYING SYSTEMS CO.
Engineers and Manufacturers
3208 RANDOLPH ST. • BELLWOOD, ILLINOIS
Suburb of Chicago

IEN 2767

HOW TO BRIGHTEN DARK ROOMS WITH A SINGLE COAT*

HERE'S A NEW FREE BOOK that tells how! Gives packed facts on the improved reflectivity, better quality of new aluminum paints now available. Alcoa does not make aluminum paint, but we have prepared this book to help you buy and apply it right.

If you've been buying paint without the information this book contains, if you've never used the superlative new aluminum paints it describes, your paint knowledge is out of date. New pigment and vehicle developments have revolutionized aluminum paint performance. This book tells how to get the best and apply it for greatest service. Includes coverage tables, facts on correct types of ready mixed aluminum paints for metal, masonry or wood surfaces, inside or out, and for heated surfaces.

This important buying and application information will be sent by return mail. Send coupon below.

ALUMINUM COMPANY OF AMERICA
Paint Service Bureau, 1734C Gulf Bldg.
Pittsburgh 19, Pennsylvania

Look for this shield on aluminum paints made by many paint manufacturers using ALCOA PIGMENTS.
*The RIGHT aluminum paint for this job is ALUMINUM METAL & MASONRY PAINT.

IEN 2769

TESTING . . Electronic counter to check workers for radioactivity

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden, N. J.

A worker . . .

IEN 2770

PAINTING . . Vinyl base liquid to corrosion proof and decorate metal

Source: DAMPNEY CO. OF AMERICA
1241-45 River St., Boston 36, Mass.

Coating will not support combustion

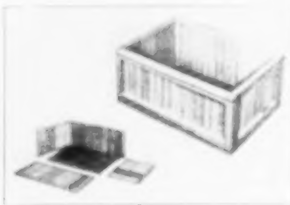
Vinyl Coating . . .

Two or more coats . . .

IEN 2771

HANDLING . . Wire bound wood box assembles collapsibly with metal straps

Source: C. B. LEWIS CO.
4 Montgomery St., Watertown, Wis.

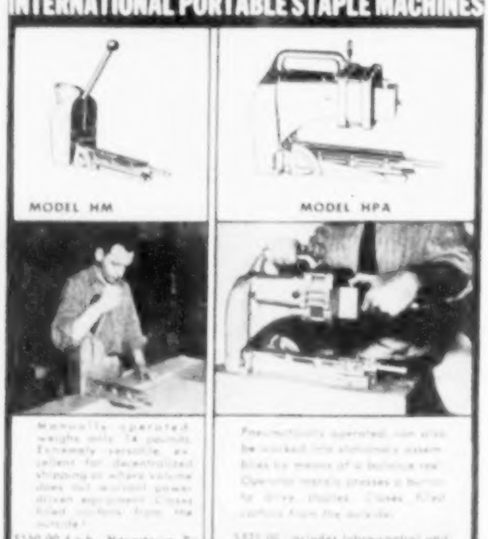


Com-Pak . . .

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . See Page 36

IEN 2772

INTERNATIONAL PORTABLE STAPLE MACHINES

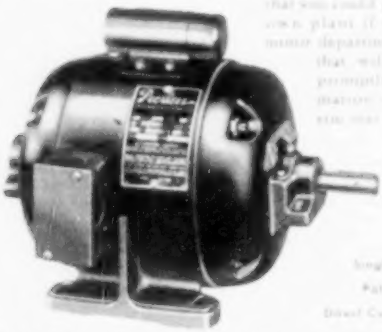


$130.00 f.o.b. Havertown, Pa.

EST. 1938
INTERNATIONAL STAPLE AND MACHINE COMPANY
HAVERTOWN 5, PENNA.
Distributors in Principal Cities

IEN 2773

MAKE PEERLESS ELECTRIC *your* MOTOR DEPARTMENT



Single Phase
Polyphase
Direct Current Motors

THE PEERLESS ELECTRIC COMPANY • WARREN, OHIO

Peerless Electric MOTORS • FANS • BLOWERS

IEN 2774

DOUBLE DUTY . . .

DELIVERS MORE LIGHT . . .

amplex

IEN 2775

WHEN YOU NEED STEEL CALL RYERSON

PRINCIPAL PRODUCTS

Bars • Structurals • Plates • Sheets • Tubing • Allegheny Stainless • Alloy Steel • Safety Floor Plate • Babbitt • Solder • Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC.

Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco.

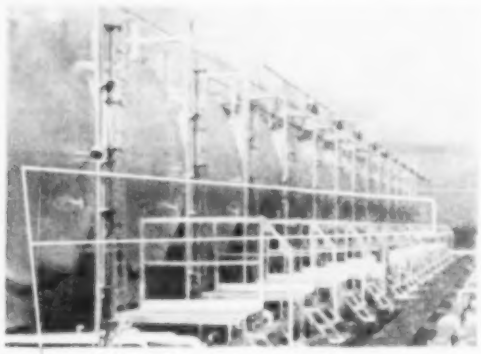
IEN-2776

LINK-BELT *Ball-Bearing* TROLLEY

improves your overhead conveyor system

LINK-BELT COMPANY

IEN-2777



Right down the line!

it's

WESTON

All-Metal Thermometers

Wherever you need quick, accurate temperature readings — on tanks, processing equipment, bearings, pipe lines — specify WESTONS *right down the line*. Not only are their large, boldly marked dials easy to read, but their accurate dependability is assured by WESTONS' all-metal construction. They stay on the job longer — cost far less in the end. Available in types, stem lengths and ranges for most applications. Call your jobber or local WESTON representative, or write for Thermometer Bulletin. WESTON Electrical Instrument Corporation, 638 Frelinghuysen Avenue, Newark 5, N. J.

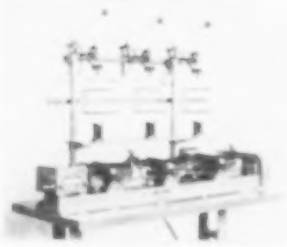
CONTACT-MAKING models for alarm or control purposes. MAX-MIN models to indicate highest or lowest temperature reached

WESTON *Instruments*

IEN-2779

WINDING . . Triple head machine winds wire on coil spools at 5,000 rpm

Source: UNIVERSAL WINDING CO.
P. O. Box 1605-A, Providence 1, R. I.



New design

The assembly

The machine

Overall length

Catalog 1049, 8 pages, illustrations, drawings, descriptions, and information on plastic in general for power transmission

10 Makers of These And 10 Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

IEN-2780

COOLING . . Shell and tube exchanger, standardized one and two pass design

Source: YOUNG RADIATOR CO.
719 Marquette St., Racine, Wis.

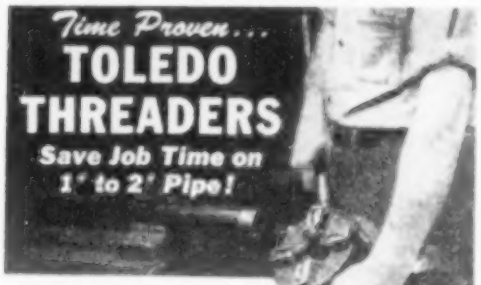
Type F

Overall length

Catalog 1049, 8 pages, illustrations, drawings, descriptions, and information on plastic in general for power transmission

10 Makers of These And 10 Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 50

IEN-2781



Toledo No. 1BR Automatic Ratchet Threader, 1" to 2" Pipe

● Tool up *right* with TOLEDO—hand tools or power—for every pipe threading requirement. For 1" to 2" pipe—thousands of better mechanics today prefer their Toledo Tools ... *Toledo 1A Ratchet Threader*, which pioneered the self-threading principle. *Toledo 1BR Ratchet Threader*, similar to 1A, with accurate centering pipe holder ... *Toledo 1MP & 1T Self-Contained Unit*, with one set high speed steel dies quickly adjustable to 4 pipe sizes. Check your needs now—specify TOLEDO! The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office, No. 2 Rector Street Building.

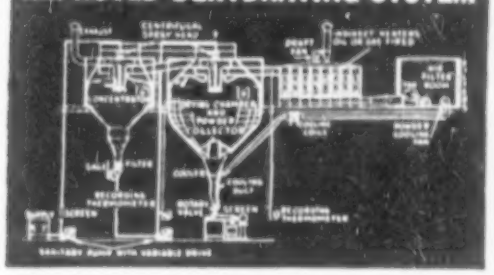
TOLEDO
PRECISION PIPE TOOLS

IEN-2782

TESTING HEADQUARTERS **BALDWIN**

IEN-2783

IMPROVED DEHYDRATING SYSTEM



Centrifugal Spray Dryer and Concentrator

For Dehydrating
Chemicals
Pharmaceuticals
Blood or Blood Plasma
Milk Products
Egg
Vegetables
Coffee and many other Products

● A complete spray drying plant employing a unique centrifugal type spray head. No high-pressure pumps or nozzles and due to the design of the spray head atomization as well as solidification can be varied. No clogging or wearing of nozzles is caused by the suspended solids. The powder is collected and cooled in the drying chamber.

WRITE FOR FREE BOOKLET

DRYING & CONCENTRATING CO., 332 S. Michigan Ave., Chicago, Ill.

IEN-2784

Two FREE samples of
SCOTCH *Electrical Tape*
for GraybaR

To get your free samples
fill in and mail the coupon today.

GRAYBAR ELECTRIC CO., INC.
420 Lexington Avenue
New York 17, N. Y.

GraybaR

Name
Company
Address
City Zone State

BREVITY—Identify by IEN - 2785 if you write the maker

HANNIFIN

HYDRAULIC

Everything you want in CYLINDERS

Here's help for busy machine designers and plant operating engineers. You can save time and money right from the start by checking with Hannifin on all of your hydraulic and pneumatic cylinder requirements. *The Hannifin line is complete!*

Hannifin sets the standard for quality! Perfected, tested designs; finest quality construction. Test-proven packings! Finest seals! Proper finishes! Interchangeable parts! Cylinders "Tru-Bored" and honed; rods ground and polished. For complete information, see your local Hannifin representative, or write:

HANNIFIN CORPORATION
1107 S. Kilbourn Ave.
Chicago 24, Ill.

PNEUMATIC

Helpful BULLETINS

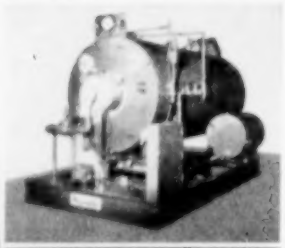
Bulletin 310 (Left) "HANNIFIN HYDRAULIC CYLINDERS"

Bulletin 210 (Right) "HANNIFIN PNEUMATIC CYLINDERS"

BREVITY—Identify by IEN - 2786 if you write the maker

LOW-COST POWER & HEAT

FOR:
Building Works
Chemical Plants
Dairies
Food Processors
Foundry Mills
Institutions
Meat Packers
Metalworking Plants
Plastic Mills
Public Buildings
Textile Mills
Etc.



ORR & SEMBOWER
Powermaster®
STEAM GENERATORS

- High efficiency cuts fuel costs as much as 40%
- Packaged design saves excessive installation costs
- Automatic operation frees engineer for other duties
- Mounted on steel base—no braking required
- Delivered fully wired and factory tested
- Waterproof service by factory trained men

ORR & SEMBOWER, INC.
860 Morgantown Road, Reading, Pa.

BREVITY—Identify by IEN - 2787 if you write the maker

gives ordinary water greater fire extinguishing power

new
Rockwood
Type SG-48
WaterFOG Nozzle

Rockwood type SG-48 WaterFOG Nozzle discharge high velocity WaterFOG in straight stream or in fine atomized WaterFOG. They are interchangeable and offer big savings operating on either high or low pressure systems for all classes of fire fighting equipment. The nozzle delivers greater knockdown and fire fighting efficiency for every gallon.

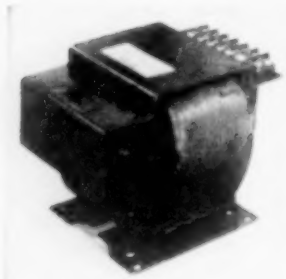
Approved by Underwriters Laboratories Inc. and Factory Mutual Laboratories. Write for Bulletin 2-SG-48

ROCKWOOD SPRINKLER CO.
60 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN - 2788 if you write the maker

TRANSFORMER . . Standardized design for machine tool control applications

Source: WESTINGHOUSE ELECTRIC CORP.
306 Fourth Ave., P. O. Box 1017, Pittsburgh 30, Pa.



New line of transformers conforms to the proposed standards by NEMA for machine-tool control by equipment such as solenoids, relays, contactors. Secondary voltage of the 60-cycle unit remains above 80 per cent of rated voltage to a load current that is 7 times normal at 20 per cent load power factor. Circuit breaker protection is supplied on ratings of 3 kva. and larger. A block is provided for the user to apply his fuses on ratings of 10 kva or smaller.

Seven sizes are included in the line for 60-cycle circuits, six for 50-cycle and three for 25-cycles. Primaries range from 230 to 500 volts, secondaries from 95 to 110 volts.

BREVITY—Identify by IEN - 2789 if you write the maker

DUST COLLECTING . . Cyclone unit cleans air at dust producing equipment

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Model 30N50 is a new assembly in the Dustkop line of collectors to serve equipment such as grinders, polishing stands, woodworking machines, sanding machines and to pick up dust from operations such as conveying, packaging, mixing. It is driven by a 5-hp. motor to handle air at 3,650 cfm. on a velocity of 10,400 fpm. Overall dimensions are 28 by 49 by 82 in. for the new equipment as shown.

Dust-laden air is drawn in through an 8-in. connection at the centrifugal blower and is delivered into the upper portion of a cyclone. Dust, dirt, chips, shavings, lint are removed centrifugally and are dropped into a 12 cu. ft. storage compartment in the base. Exhaust air is delivered through an opening in the top of the cyclone for exhaust outdoors. There are no filter panels in the assembly.

BREVITY—Identify by IEN - 2790 if you write the maker

COMPRESSORS . . Anniversary booklet illustrates the company's growth and its products

Schramm Inc.
800 E. Virginia Ave., West Chester, Pa.

"Golden Anniversary" booklet commemorates the company's 50 years in the manufacture of air compressors. Its 8 pages trace development from 1901 in plant, products and personnel. The company will be happy to send you a copy.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 10

BREVITY—Identify by IEN - 2791 if you write the maker

This kitchen floor may
SOLVE YOUR FLOORING PROBLEM

TILE-TEX FLOORING PRODUCTS

BREVITY—Identify by IEN - 2792 if you write the maker

Important Bulletin!...

on new Flexunit Plug-in Distribution Panelboards

YOU WANT the information it changes the whole panelboard picture. The new rugged new Federal Sturdy Flexunit Plug-In Distribution Panelboard is assembled to your specifications of a low minimum cost from interchangeable parts. Office-factory convenient. Write for your free copy. Federal Electric Products Co., 70 Pine St., Newark, N. J.

FEDERAL NEWARK
FLEXUNIT PLUG-IN DISTRIBUTION PANELBOARDS
SALES OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 2793 if you write the maker

CHIKSAN *Ball-Bearing Swivel Joints* are preferred by engineers, operators and maintenance men where even flexible lines are used. The new installation pictured, CHIKSAN easy rotating silicone packed, low maintenance, vital and long life, from three-way CHIKSAN *Swivel Joints* are employed in standard equipment on all lines. Even tension developed at the exhaust allows tight joints, yet with CHIKSAN *Ball-Bearing Swivel Joints*. By these or your brackets will be those prove to you that "our good lines deserve another."

WRITE FOR CATALOG NO. 50

REPRESENTATIVES IN PRINCIPAL CITIES

CHIKSAN COMPANY
AND SUBSIDIARY COMPANIES
BREA, CALIFORNIA New York 7
WELL EQUIPMENT MFG. CORP. HOUSTON 1, TEXAS
MID-CONTINENT AREA
CHIKSAN EXPORT CO. BREA, CALIFORNIA - NEW YORK 7
EXCLUSIVE EXPORT REPRESENTATIVE

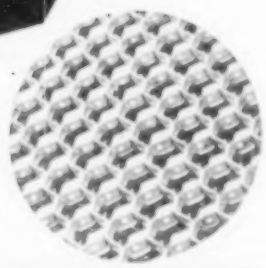
BALL-BEARING SWIVEL JOINTS FOR ALL PURPOSES

REF/IT!—Identify by IEN-2795 if you write the maker

THE FLOOR REPAIRMAN IS A STRANGER

...when you install KLEMP HEXTEEL

Years of abuse by ponderous rolling wheels, tractors with lugs, heaviest trucks, crushing impacts leave supertough Hexteel still solid, smooth, crackless and SAFE. That's why it practically puts your maintenance man on a vacation!



Klemp Hexteel is a heavy-duty steel grid, designed to be imbedded in concrete or mastic, on new or old floors—either wood or concrete. Get the facts on the floor that lets you forget maintenance—write for our Hexteel Book now!

KLEMP HEXTEEL

WM. P. KLEMP COMPANY

"Steel Flooring Specialists"

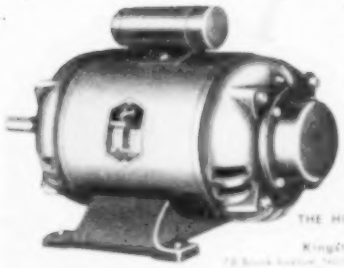
6605 S. Melvina Ave. Chicago 30, Illinois

REF/IT!—Identify by IEN-2796 if you write the maker

Hoover ELECTRIC MOTORS

do your reputation a good turn

Drills—lathes—radial saws—whatever machine tools you make—your prestige depends on their instant operation when the particular job comes. They must start quickly and run over the entire range of hard, continuous use. Which is why so many manufacturers equip their products with Hoover Electric Motors. Capacitor start and repulsion Hoover Motors are engineered especially for machine tools, compressors, pumps and other hard to start, continuous duty equipment. Write for details. You'll find there's a Hoover Motor to fit YOUR requirements . . . to fit YOUR reputation a good turn!



"Hoover" new name for K C Motors

Motors made by Kingston-Conley Division of the Hoover Company have long been known as "K C Motors." In the future they will be called "Hoover Motors." Their famous quality continues as high as ever . . . and leading to the industry.

THE HOOVER COMPANY

Kingston-Conley Division

REF/IT!—Identify by IEN-2797 if you write the maker

SPEEDY AIR VISE

SPEEDS UP

√ MILLING √ PUNCHING

√ DRILLING √ BENDING

√ TAPPING √ RIVETING

FOOT CONTROLLED

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

$29.90

W. K. BROWN CORPORATION • 3180 Armitage Ave. • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

REF/IT!—Identify by IEN-2798 if you write the maker

RETRIEVING . . Pneumatic balancer for equipment weighing 5 to 500 pounds

Source: PLATZ CO.
20423 Sherwood Ave., Detroit 34, Mich.

Dual Load [illegible]

The new design is [illegible] to a range of [illegible] pounds. [illegible]

Bulletin, 4 pages, "Dual and Dual-Load Balancing Hoists," [illegible] specifications on standard dual-load hoists.

REF/IT!—Identify by IEN-2799 if you write the maker

SEALING . . Ring type assembly stops axial leakage on rotating shaft

Source: FELT PRODUCTS MFG. CO.
1523 Carroll Ave., Chicago 7, Ill.

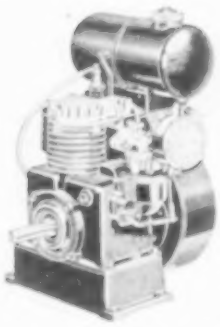
Pressure to 600 lb. and temperature to 250 deg. F. can be handled by this new Fel-Pro high-pressure rotating shaft seal. It is available to specification to fit into the stuffing boxes of rotating-shaft equipment to place of the normal packing. It is designed particularly for equipment handling hydrocarbons such as crude oil, diesel oil, kerosene, ethylene, gasoline.

One side of the assembly is a carbon ring which is backed flexibly by an O-ring and is sealed against leakage to the mounting shaft by a second O-ring. This side does not rotate. The other side mounts a metal ring on axial springs in a collar that is secured to the shaft to rotate with it. The collar and springs back the metal ring so its superfinished outer face bears against the similarly finished face of the stationary carbon ring.

The assembly employs a recirculated portion of the liquid being handled for sealing purposes. It is designed for hydraulic balance that will minimize unit load on the contact faces. No external lubrication is required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Developments . . Ratings . . See Page 10

REF/IT!—Identify by IEN-2800 if you write the maker



Four-Cycle
Air-Cooled

KOHLER ENGINES

- Compact
- Quick-Starting
- Reliable

KOHLER OF KOHLER

Plumbing Fixtures • Heating Equipment • Electric Plants • Air-cooled Engines

REF/IT!—Identify by IEN-2801 if you write the maker

KINNEAR

STEEL ROLLING DOORS

Kinnear Rolling Doors are open by opening upward and coiling above the doorway. All floor and wall areas around the door remain free and are easily usable at all times. This safe, gliding action does away forever with damaged doors, injured people and costly repairs. Kinnear Rolling Doors are more than a door, of steel construction throughout, including the low sill, concrete and stone. Low cost, operation against fire, windstorm, and accidental damage. Door to fit any opening. Write for complete details.

KINNEAR ROLLING DOORS

The KINNEAR Mfg. Co.

1960-780 Fields Ave. • Columbus 16, Ohio

1742 Yosemite Ave. • San Francisco 24, Calif.

REF/IT!—Identify by IEN-2802 if you write the maker

TRUSCON STEEL BOXES

just say "Truscon"...

and there's the *box* you need!

Truscon has boxes of different types of [illegible] and sizes to meet a wide range of [illegible] requirements. And if your needs are somewhat special, Truscon has the engineering ability and production skill to meet your requirements. Truscon's long experience in production and [illegible] Truscon's long experience with sheet metal [illegible] of material handling [illegible] Write for catalog.

TRUSCON STEEL COMPANY

REF/IT!—Identify by IEN-2803 if you write the maker

THE REPAIRMAN IS A STRANGER WHEN YOU INSTALL

KLEMP FLOOR-STEEL

KLEMP HEXTEEL

WM. P. KLEMP COMPANY

"Steel Flooring Specialists"

6605 S. Melvina Ave. Chicago 30, Illinois

▼ REPRINT—Identify by IEN-2804 ▼

How Production-Wise Manufacturers

SAVE SANDING COSTS

FINISHING METAL

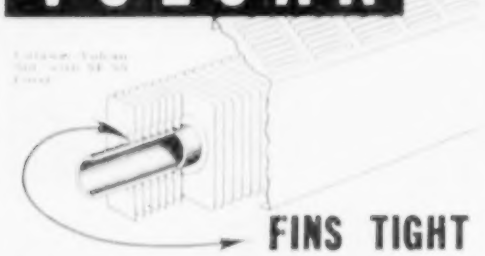
FINISHING PLASTICS

Have you got a finishing problem? Ask your distributor about AP Jewel Coated Abrasives or write us today!

Abrasive Products, Inc.

▼ REPRINT—Identify by IEN-2805 ▼

VULCAN



FINS TIGHT for BEST HEAT TRANSFER

Steel Fins embedded in first quality Seamless Steel Protectoseals (A.S.T.M. spec. A-53) by a special Vulcan process become an integral part of the tube, insuring better heat transfer . . . are guaranteed to remain tight under conventional operating conditions. All steel units guaranteed for 450 P.S.I.

Complete line of covers and accessories for commercial and residential (Baseboard) units.

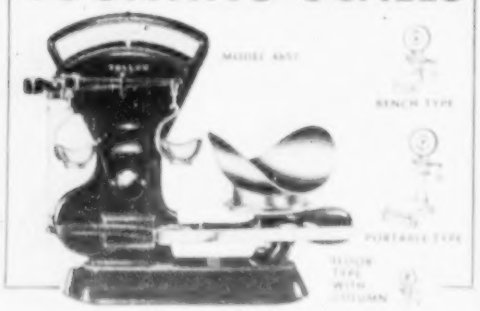
Send for Illustrated Booklet

THE VULCAN RADIATOR CO.
26 FRANCIS AVENUE, HARTFORD 6, CONN.

▼ REPRINT—Identify by IEN-2806 ▼

Control Costs with

COUNTING SCALES



Toledo's complete line of Counting Scales gives you the right model for every job . . . a wide range in sizes. For counting per thousand, approximate unit or parts . . . counting unknown quantities . . . for counting numbers of or to get accurate recording, displaying, totalizing and price-work totals. Complete Scales for counting parts weighing only a few grains . . . up to over counting capacities of several tons. Also dials, 8 dial/10 and eight print combinations. Send for booklet 2011. Toledo Scale Company, Toledo 15, Ohio.

TOLEDO
HEADQUARTERS FOR SCALES

▼ REPRINT—Identify by IEN-2807 ▼

VALVE . . Solenoid operated, dashpot controlled in closing direction

Source: JOHNSON CORP
805 Wood St., Three Rivers, Mich.

Series 1000 is a valve designed to be installed horizontally and can be operated by an electric solenoid. The unit normally engages a contact in control of the top of the valve housing to which dashpot is fitted. Dashpot is provided with adjustable needle to accurately control of water between the piston and the dashpot wall. Between 1½ and 2 sec are required for the valve to close.

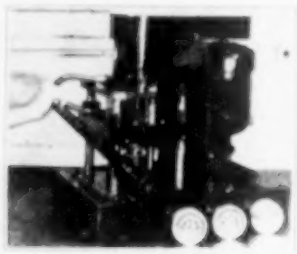
Opening the solenoid energizes the piston and from the valve disc to move down at speed determined by passage of water between the piston and the dashpot wall. Between 1½ and 2 sec are required for the valve to close.

Construction: a standard with cast body, bronze piston, stainless steel disc and seat. All bronze can be specified. Dif. operating pressure a maximum of 150 pounds. Temperature is not over 300°F. Water range from 30 to 1 inches.

▼ REPRINT—Identify by IEN-2808 ▼

DRILLING . . Multi-spindle machine for specified work and hole pattern

Source: ZAGAR TOOL INC.
23878-82 Lakeland Blvd., Cleveland 23, Ohio



Jig Driller . . . is a new adaptation of the company's Jig Boring Machine. It is designed with an adjustable spindle drive head, a horizontal drive motor and a coolant tank and pump. The machine is hand-feed or power operated for production drilling operations. It provides rigid mounting for the head in a self contained assembly that does not require the user to adapt a drilling machine to the head. Has provision for number of spindles, center distance, speeds, when one or more are to be specified when on each machine built to order.

▼ REPRINT—Identify by IEN-2809 ▼

WELDING . . Prize contest offers $2,350 in awards for papers on resistance welding

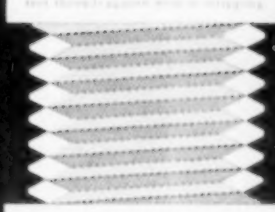
Sponsor: Welder Mfrs. Association
2233 Arch St., Philadelphia 6, Pa.

Closing date is July 31 for the 1956 contest of the Annual Prize. Papers on design, applications, research in the field of resistance welding are eligible. Ask for a copy of the rules which cover scope of topics, prizes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

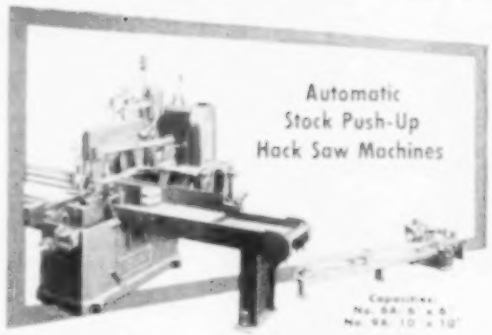
▼ REPRINT—Identify by IEN-2810 ▼

DESIGNERS CAN PREVENT SCREW THREAD TROUBLES WITH *HELI-COIL* INSERTS...



HELI-COIL CORPORATION

▼ REPRINT—Identify by IEN-2811 ▼



Feed, Measure, Cut-Off—AUTOMATICALLY

These automatic stock push-up hack saw machines are not new. MARVEL built the first practical bar feed hack saw machines, over 30 years ago. The sound, proven, basic principle of these machines has never changed—but they have been constantly improved and refined. Today they are still the leaders—the most practical, fastest, most accurate, most productive cutting hack saw machines built. No matter what your cut-off work, let us recommend the MARVEL saw that will give you true economy, speed and accuracy at an attractive price.

Write for Catalog

MARVEL SAWS
ARMSTRONG-BLUM MFG. CO.
The Hack Saw People
5700 Bloomingdale Ave. Chicago 39, U.S.A.

▼ REPRINT—Identify by IEN-2812 ▼

ACE *gives you* Ace-High Quality in

PLASTIC BALLS

COMPLETELY SEAMLESS
PRECISION FABRICATED

- All sizes Dia. to 12"
- All plastic materials
- A wide variety of colors

Write today for Color Bulletins and Samples

Complete facilities for fabricating plastic parts for all industries. Estimates submitted promptly upon receipt of your blueprints or specifications.

QUALITY TRADE MARK

ACE PLASTIC COMPANY
Precision Plastic Fabricators
91-24 Van Wyck Blvd., Jamaica 1, N.Y.

▼ REPRINT—Identify by IEN-2813 ▼

OHIO STOCK GEARS AND SPEED REDUCERS

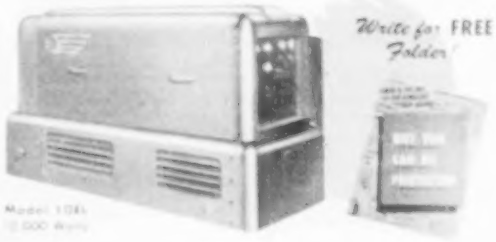
Cut POWER TRANSMISSION *Costs!*

THE OHIO GEAR COMPANY
1347 E. 179th St., Cleveland 10, O.
ESTABLISHED 1915

OHIO GEARS

IEN-2814

One power failure may cost you more than an ONAN Standby ELECTRIC PLANT!



Model 10EL
10,000 Watts

Write for FREE Engineering Service on your standby electric problem

D. W. ONAN & SONS INC.
2731 ROYALSTON AVE. • MINNEAPOLIS 5, MINN.

IEN-2815

THE MOST PORTABLE GAS-DRIVEN ARC WELDER EVER BUILT

MODEL HGW-150

Weight, only 365 lbs. An unexcelled gasoline-engine driven arc generator. Has ample power for any arc welding.

Equipped for arc-arcing lighting.

Write today for Illustrated Bulletin

NATIONAL CYLINDER GAS COMPANY
344 North Michigan Avenue Chicago 11, Illinois

NCG
EVERYTHING FOR WELDING

IEN-2817

DRIVE . . . Variable speed control, ¾ to 2 hp. dc. motor from ac. line

Source: RELIANCE ELECTRIC & ENGINEERING CO.
1111 Ivanhoe Road, Cleveland 10, Ohio

Normal range

Standard equipment

The control

Bulletin D-101

IEN-2818

MOTOR BRUSH . . Custom made carbon with neoprene vibration absorbing pad

Source: HELWIG CO.
2515 N. 10th St., Milwaukee 12, Wis.

IEN-2819

TUBE FITTING . . Strap couplings to join ends of metal tubes and ducts

Source: MARMAN PRODUCTS CO.
318-42 W. Florence Ave., Inglewood, Calif.

1 Head

Each coupling

IEN-2820

DETROIT ROCKING ELECTRIC FURNACES

Show profits in plant after plant!

FERROUS and NON FERROUS MELTING

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY • BAY CITY, MICHIGAN

IEN-2821

Now—

A MACHINE THAT WILL DO ALL 4

1. Internal Push Broaching
2. Surface Broaching
3. Slotting
4. Press Work

priced far below single-purpose ram type machines

The New RAM-PRESS

IEN-2822

FOR ANY JOB IN SCREW DRIVING

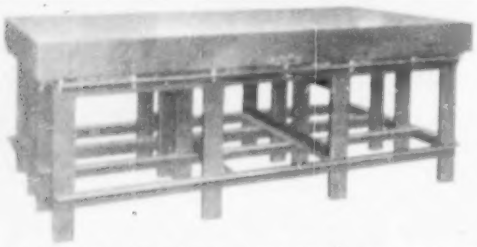
There's an ARO TOOL to help you

Increase Production. Reduce Costs!

ARO
AIR TOOLS

IEN-2823

SMOOTH and SQUARE
for Layout, Inspection, Assembly



CHALLENGE LAYOUT SURFACE PLATES

THE CHALLENGE MACHINERY CO., Grand Haven, Mich.

SURFACE PLATE EQUIPMENT
UNIVERSAL IRONS · 4 Sizes — V-BLOCKS · 3 Sizes
ANGLE PLATES · 3 Sizes — BOX PARALLELS · 3 Sizes

IEN-2824

Eliminate Eye Fatigue...
Impaired Vision with —

COOLITE GLARE REDUCING **GLASS**

MISSISSIPPI Glass COMPANY
SAINT LOUIS 7, MO.
NEW YORK · CHICAGO · FOUNDATION CITY

IEN-2825

The ONLY FENCE
MADE OF
KONIK STEEL

WE'LL HELP YOU...

CONTINENTAL STEEL CORPORATION

IEN-2826

LATHE TOOLS . . Carbide bit holders for round, square and triangular bits

Source: KENNAMETAL INC.
705 Lloyd Ave., Latrobe, Pa.

IEN-2827

PULVERIZING . . Laboratory mill to produce dry powdered samples

Source: LABORATORY CONSTRUCTION CORP.
11738 Holmes St., Kansas City 6, Mo.

IEN-2828

CASTER . . Swivel design, forged steel wheels, ¾ and 1 ton

Source: MIDWEST PRECISION CORP.
305 Hillsdale St., Jackson, Mich.

IEN-2829

CLAMP . . Double end spiral spring made of prestressed flat spring steel

Source: HUNTER SPRING CO.
3 Spring Ave., Lansdale, Pa.

IEN-2830

BEAVER MODEL-C PORTABLE POWER UNITS
—the gears run in oil

Compare These 6 Beaver Exclusive Advantages

1. All gears are fully enclosed
2. Rotary pneumatic and steam motors
3. Patented rotary lock
4. Heavy-duty 3/4" to 2" chuck—full size, full power
5. Gear steel and Bronzelite
6. Interchangeable

Write today for catalog and prices. Address Beaver Pipe Tools Inc. 236-300 Dana Avenue, Warren, Ohio, U. S. A.

50 Years of Friendly Service
BEAVER PIPE TOOLS

IEN-2831

STAPLE to save time . . . speed up production

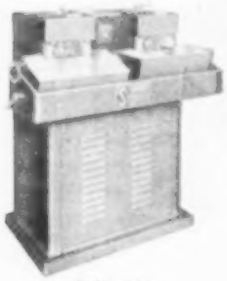
T-32 GUN TACKER

P-22 HAND STAPLER

Some dealerships open—write Dept. IEN

ARROW FASTENER COMPANY, INC.
10-35 MAURER ST. BROOKLYN 5, N. Y.

IEN-2832



FROM ROUGH TO FINISH GRIND IN ONE STEP!

HEAVY DUTY
WET OR DRY
10" - 14" WHEELS

TYPE 1070 TWIN WHEEL TOOL GRINDER

OLD WAY

NEW WAY

One step from rough to finish grind

Conserve floor space—place Grinder against the wall

BULLETIN 70

THE STANDARD ELECTRICAL TOOL CO.
1409 RIVER ROAD CINCINNATI 4, OHIO

IEN-2833

FASTER DRIVING!

EASIER TIGHTENING!

STRONGER ASSEMBLIES!

SEND FOR THIS FOLDER

DANLY

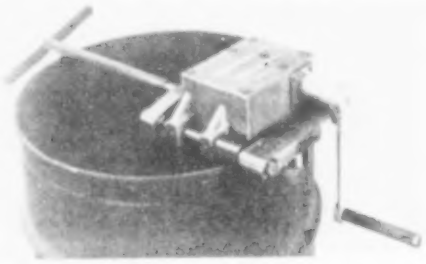
DANLY MACHINE SPECIALTIES, INC.
3100 South 52nd Avenue, Chicago 50, Illinois

IEN-2834

Cut Heads Out of Drums..

In one trip — In one minute!

SCHINKER MANUAL HEAD CUTTER for STEEL DRUMS



SPEEDY

PORTABLE

SAFE

ELIMINATES

PRICE $150.00 F.o.b. CHICAGO • Write — Write

MICHAEL A. SCHINKER MFG. CO.
6514 So. Western Avenue Chicago 36, Ill.

IEN-2835

THE *Forsberg* MFG. CO.

IEN-2836

POLISHING . . Roll type machine to finish flat and contour surfaces

Source: CENTRAL MACHINE WORKS INC.
70-74 Commercial St., Worcester 9, Mass.

IEN-2837

HEAT TREATING . . Gas generator produces protective furnace atmosphere

Source: C. M. KEMP MFG. CO.
403-7 E. Oliver St., Baltimore 2, Md.

IEN-2838

DRIVE . . Flexible coupling has tapered bushings to apply quickly

Source: ALLIS CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.

IEN-2839

WITHINGTON & SERNER INC.

FLUIDOMETER
Automatic Metering System

IEN-2840

METALS RECLAIMED WITH VACUUM

In this plant large quantities of magnesium chips are collected from the floor and lathes every few hours. Fire hazards are reduced, and the reclaimed material pays for the Spencer equipment in a few months. If necessary the Spencer System can be arranged so that the materials are immediately deposited under water as a double precaution against fire hazards.

Spencer is also used for removing or conveying liquids, fumes, powders and hot materials.

150 USES FOR VACUUM . . . ASK FOR BULLETIN
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER

IEN-2841

Plenty of Places...

Where this 3-in-1 Workbench Will Save Time and Work

IMMEDIATE SHIPMENT

SERVICE CASTER & TRUCK CORP.

▼ REPRINT—Identify by IEN-2842 if you write the maker ▼

TUKON for Micro-Indentation Hardness Testing

Model FB

Wilson now offers 3 models for use with either Knoop or 136° Diamond Pyramid Indenter.

Model MO—Mechanically operated—simple economical. Bench or floor type. Applies loads from 1 to 1000 grams.

Model FB—Fully automatic—most popular model. Applies loads from 10 to 1000 grams.

Model LR—Long Range model—the ultimate in hardness testing. Applies loads from 10 to 50,000 grams.

SEND FOR BULLETIN OF INFORMATION

Made by Wilson, manufacturer of "ROCKWELL" Hardness Testers and "ROCKWELL" Superficial Hardness Testers.

WILSON
MECHANICAL INSTRUMENT CO., INC.
AN ACCURATE COMPANY OF AMERICAN CHAIN & CABLE COMPANY, INC.
230 S. PARK AVENUE, NEW YORK 17, N. Y.

ACCO

▼ REPRINT—Identify by IEN-2843 if you write the maker ▼

HANSEN HOSE CLAMP

2 WAY GRIP
RE-USABLE . . .

Easy to install, easy to remove for hose removal. May be used over and over again. Provide with special internal left-hand thread bolt, instead of hose right-hand non-thread bolt, enable Long screw plunger entering hose. Available Size hose ... I.D. with male or female pipe threads in well-tested and All parts anchored from inside hose out.

Write for free catalog

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

▼ REPRINT—Identify by IEN-2844 if you write the maker ▼

NO MAINTENANCE WITH

EMERI-CRETE FLOORING

MADE WITH CORTLAND EMERY AGGREGATE
DIAMOND-HARD FOR HEAVY-DUTY USE

Get FREE PROOF-POSITIVE Folder No. 601 Today

EMERI-CRETE FLOORING

▼ REPRINT—Identify by IEN-2845 if you write the maker ▼

GAGE . . Dial type design reads tension to 50,000 pounds

Source: W. C. DILLON & CO.
5408-12 W. Harrison St., Chicago 44, Ill.

Three new ratings ... Construction ...

▼ REPRINT—Identify by IEN-2846 if you write the maker ▼

CASTINGS . . Ductile cast iron on specification to 40,000 lb. units

Source: CHAMBERSBURG ENGINEERING CO.
Derbyshire St., Chambersburg, Pa.

Company also makes patterns ... Ductile Cordley ...

Machinability ...

▼ REPRINT—Identify by IEN-2847 if you write the maker ▼

VENTILATING . . Fan type exhauster assembles in roof, 1,000 to 40,000 cfm.

Source: CHICAGO BLOWER CORP.
4556-60 W. Congress St., Chicago 24, Ill.

Axial-Flo ...

The fan ...

▼ REPRINT—Identify by IEN-2848 if you write the maker ▼

SCAFFOLD . . Aluminum tube panels assemble as required on 5 in. casters

Source: PATENT SCAFFOLDING CO.
38-23 12th St., Long Island City, L. I., N. Y.

Finish ...

The caster ...

▼ REPRINT—Identify by IEN-2849 if you write the maker ▼

OF OPERATING EQUIPMENT
. . . by using a
JONES TACHOMETER

Checking of machine speeds quickly shows profits through more operating or outstanding. A quick permanent solution is a simple installation of a JONES TACHOMETER to your production machines. Used for every kind of production machine or process, it provides an instant and accurate check on speeds to help maintain predetermined production schedules, and eliminate production slowdowns.

Available for portable use as you install, or for permanent installation.

Write your nearest Representative or Franchised Dealer.

Write for catalog 146-2.

JONES MOTROLA CORP. STAMFORD, CONN.

▼ REPRINT—Identify by IEN-2850 if you write the maker ▼

Conserve Man Power Costs

WITH
LIGHTNIN MIXERS

Where man power is at a premium, you can mix, stir, blend, agitate or recirculate with Lightnin Mixers at a fraction of the cost of the same operation performed with hand labor. Be sure you specify Lightnin—the mixer that has the advantages of low initial cost and years of performance without repairs.

USE LIGHTNINS FOR

- Blending miscible liquids
- Immiscible liquids
- Dissolving
- Suspension of solids
- Gas-liquid contacting
- Heat Exchange Improvement
- Emulsifying
- Crystal size control

Top Entering: 1 to 50 H.P. for Open or Closed Tanks. Propeller, Turbine, or Paddle Type.

Side Entering: 1 to 25 H.P. for Tanks up to 5,000,000 Gallons Capacity.

MIXING EQUIPMENT CO., Inc.
1021 GARSON AVE., ROCHESTER, N. Y.

PROCESS ADAPTED AGITATION
TOP ENTERING
LIGHTNIN MIXCO
SIDE ENTERING

SEND FOR THIS LITERATURE
MIXING EQUIPMENT CO., Inc.

REFERENCE—Identify by IEN-2852

Is Plant Ventilation Taxing Your Heating System?

use THERMOBLOC

Gas or Oil Fired
Self-Contained
Industrial Heating Units

FOR TEMPERING MAKE-UP AIR

During cold weather, ventilation frequently imposes critical loads on plant heating systems by inducing the substitution of cold air to make up for the volume ventilated off. (Ventilation Heat Load = volume of ventilation for 1.08 by design temperature difference; indoor — outdoor temperature.)

Here is how THERMOBLOC direct fired heaters are used to preheat enough make-up air to correct the situation. Air taken around through the walls, fed outside air direct to the units, where it is raised to the desired temperature, then discharged into the working area.

THERMOBLOC Direct Fired Heaters are low cost units that operate on 82-86% efficiencies. Their low cost and moderate operating costs make them ideal for this job. Give details of ventilating system when writing for information.

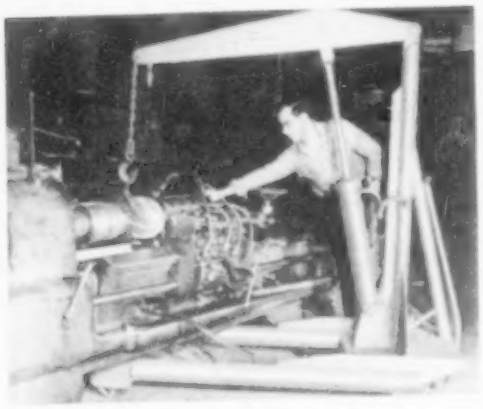
DATA BOOK: THERMOBLOC is widely used for heating buildings—low first cost—high efficiencies—not set distribution system! Send for this Bulletin—8-201.

THERMOBLOC DIVISION

PRAT-DANIEL CORPORATION

78-3 WATER STREET, EAST PORT CHESTER, CONN

REFERENCE—Identify by IEN-2853



For handling forgings, castings, dies, general plant maintenance and millwright work. 5ft to 13 ft., capacities to 8,000 lbs.

Try This **RUGER Hydraulic Floor Crane** *for Ten Days Free*

Fill out the coupon below. Mail it to us attached to your letterhead. We'll contact our distributor in your territory and arrange with him to furnish you a genuine Ruger Hydraulic Floor Crane for a *ten day free trial* in your own plant.

There are no strings attached . . . no obligation to buy. If, at the end of the ten day free trial, you believe that you can get along without the Ruger, it will be removed at no cost to you.

Remember, this is the genuine Ruger, the original Hydraulic Floor Crane that eliminates back breaking heavy lifting and saves time and money in thousands of plants from coast to coast. Perhaps you may have wondered whether the Ruger could do as much for you. Here is your chance to find out without spending any money or obligating yourself in any way.

Mail coupon today as we must reserve the right to withdraw this free trial offer at any time and without prior notice.

Attach this coupon to your letterhead

Please arrange for a free trial of a Ruger Hydraulic Floor Crane. We understand that this coupon does not obligate us in any way.

Your Name _____

Company _____

Street Address _____

City _____ State _____

RUGER *Equipment Co. Inc*

Load Lifting and Handling Devices

612 West Fourth Street • Uhrichsville, Ohio

REFERENCE—Identify by IEN-2855

TRUCK . . Engine driven fork unit for outside and inside work. 6½ mph.

Source: ELWELL-PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 14, Ohio

Initially, [illegible]

The truck [illegible] load [illegible] 72" [illegible] 36" [illegible] Design with the operator [illegible] 50% [illegible] Design A [illegible]

REFERENCE—Identify by IEN-2856

WOOD WORKING . . Combination saw with scale, square, protractor, levels

Source: GEOMETRIC SAW CO.
145-49 Genesee St., Auburn, N. Y.

The rear edge of the [illegible]

In the handle [illegible]

List price [illegible]

REFERENCE—Identify by IEN-2857

ROCK DRILLING . . Pneumatic hammer for holes to 25 ft., wet or dry action

Source: CHICAGO PNEUMATIC TOOL CO.
6 E. 44th St., 3rd Fl., New York 17, N. Y.

Sinker Drill [illegible]

A new DP [illegible]

Bulletin SP-2009 [illegible]

All Models of These And All Other Products Are Listed In THOMAS REGISTER — Descriptions — Ratings — See Page 10

PLANT SAFETY

Accident prevention is a mental job. Good rules plus supervision enforcement plus management backing spell out Eight when Don't Forget the life you save may be your own.

REFERENCE—Identify by IEN-2858

MULTIPLE DRILLING

with a

MULTI-DRILL

INCREASES CAPACITY UP TO 800%

ADJUSTABLE TO ANY HOLE PATTERN . . . FITS ANY DRILL PRESS

A high production machine yielding from 2 to 8 holes at a work cycle, a MULTI-DRILL will cut costs and speed output as no other [illegible] is ultimately adaptable to any hole pattern or capacity, built to perform [illegible] independently operation with any "Jig" [illegible] Equipping [illegible] to take the most out of high production work, the MULTI-DRILL will handle your [illegible] drilling jobs with [illegible] The MULTI-DRILL [illegible] production operations [illegible] 50% or more [illegible]

"Now is a Commander MULTI-DRILL checkup or [illegible] Write for the name, location and complete details."

See us at Booth 426, A.S.T.E. Show, Philadelphia

COMMANDER MFG. CO.

4219 WEST KINZIE ST. CHICAGO 24, ILLINOIS

Product of *Commander* — Builder of the *Commander Tapper*

REFERENCE—Identify by IEN-2859

Fans!
FOR ALL INDUSTRY
"Standard Units or Custom Design"

Top: Plenum Type Vertical Exhaust. Sizes 24" to 54" Fan.

Models: Plenum, Tubular, Cone, Axial, Propeller, Vane, Centrifugal, Cross Flow, Ventilating, Exhaust, Blower, Propeller, Vane, Centrifugal, Cross Flow, Ventilating, Exhaust, Blower.

Materials: Electric Steel Drawn Steel, Single or Double Inlet with Self-Aligning Ball Bearings, Mild Construction with Self-Aligning Ball Bearings, Sizes 12" to 72".

SOUTH BEND AIR PRODUCTS, Inc. 30 E. Colfax Ave. South Bend, Ind.

REFERENCE—Identify by IEN-2860

What's YOUR Roll Problem?

The Answer is often:

USE

SHAF-TITE ROLLS

Many Patented Constructions

Choice of

METAL, RUBBER, or WOOD ROLLS

Send For NEW ROLL CATALOG No. 48

RODNEY HUNT MACHINE CO.

873 Main Street Orange, Mass., U.S.A.

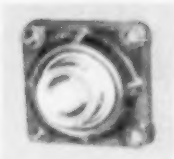
RODNEY HUNT

▼ IEN - 2861 ▼

3 ways to save power

LAK Light Series PILLOW BLOCKS self-aligning design featuring Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals. Easiest of all bearings to install and remove.

LAO Heavy Duty PILLOW BLOCKS Capacity stepped up, size cut down. Full self-alignment in all directions. Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals.



LCJ FLANGE CARTRIDGES with Fafnir Wide Inner Ring Ball Bearing with exclusive self-locking collar and Mechani-Seals.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

▼ IEN - 2864 ▼

TESTING . . Hand hydraulic equipment checks pressure assemblies for leaks

Source: J. N. FAUVER CO.
45 W. Hancock Ave., Detroit 1, Mich.

Reservoir ...

A work piece ...

▼ IEN - 2865 ▼

PLASTICS . . Laminated sheets made in wood grain and plain colors

Source: FORMICA CO.
4618-22 Spring Grove Ave., Cincinnati 32, Ohio

You can ask for specific samples

Luxwood ...

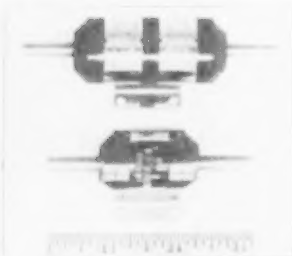
Softglo ...

Both sheet materials ...

▼ IEN - 2866 ▼

DRIVE . . Miniature speed reducer is suited also to increase drive speed

Source: METRON INSTRUMENT CO.
430-34 Lincoln St., Denver 9, Colo.

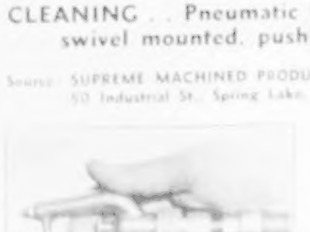


Hubbed gearing ...

▼ IEN - 2867 ▼

CLEANING . . Pneumatic blow valve, swivel mounted, pushbutton operated

Source: SUPREME MACHINED PRODUCTS CO.
50 Industrial St., Spring Lake, Mich.



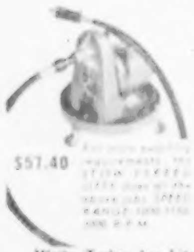
Two sizes ...

The valve ...

▼ IEN - 2862 ▼

STOW presents a NEW portable POWER TOOL

- GRINDS
- FILES
- DRILLS
- POLISHES
- BUFFS
- SANDS
- ROUTS
- BRUSHES



$57.40

Order Today $44.90

Write Today for Literature on STOW JIFFY TOOLS!

STOW MANUFACTURING CO.
25 Shear St. Binghamton, N. Y.

▼ IEN - 2863 ▼

MORE HOURS IN YOUR CLOCK!
Own Your Own KELLOGG
SELECT-O-PHONE
Automatic Private Telephone and Paging System

MAIL COUPON TODAY!

SELECT-O-PHONE DIVISION
Kellogg Switchboard & Supply Co.
Chicago, Ill.

NAME
COMPANY
ADDRESS
CITY STATE

▼ IEN - 2868 ▼

"S M C" POROUS BRONZE BEARINGS
— Self-Lubricating —

These "Glossy Surfaced" Bronze Bearings not only have the appearance of Better Quality—they have much greater Wear Resistance too!

The operating surface of "SMC" Bearings is "Built" to last longer, and yet—there is ample permeance for its self-contained lubricant to maintain the proper Oil Film.

We can meet your most exacting specifications for Bushings, Flanged or Spherical Bearings and Powdered Metal Parts.

So MANY manufacturers are cutting costs with "SMC" POROUS BRONZE BEARINGS.

Write us regarding your special applications.

Manufacturers Carbon and Metal-Graphite Products.

ST. MARYS CARBON COMPANY
STATE ROAD • ST. MARYS, PA.

▼ IEN - 2869 ▼

The New ACCO Sling Chain Adjuster
—a Safety Measure and a Work Saver

• It comes as a complete unit—Pear Shaped Link, Adjuster and Single Sling with hooks at both ends. Slings of "85" and "125" ENDWELDUR steel chain—from ¼" to ⅞"—Link and Adjuster sized to correspond to size of chain. Length of chain to your specification.

Your AMERICAN CHAIN distributor can give you detailed information—capacities, recommended sizes, prices, etc.

ACCO York, Pa., Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco, Bridgeport, Conn.

AMERICAN CHAIN DIVISION
AMERICAN CHAIN & CABLE

In Business for Your Safety

▼ REPRINT—Identify by IEN-2871 ▼

Almost every industry can save by packaging with

ACME STEELSTRAP

In fact, over 40,000 users have proved that 9 out of 10 companies can make important savings in time, materials and money. Here are a few typical examples:

- a maker of water coolers cut packaging costs one-third!
- a lumber mill cut unloading time for its customers 88%!
- a manufacturer of roller bearings cut packaging time in half!

Products packaged with Acme Steelstrap and loaded in freight cars with Acme Unit Load Band stay solid, safe, fully your customers again. Find out what Acme can do for you! Write today to Dept. IEN-10, 2858 Archer Avenue, Chicago 8.

ACME STEEL COMPANY

▼ REPRINT—Identify by IEN-2872 ▼

Suzy the stock girl says...

"IT'S A CINCH to move materials in these containers!"

C-D DIAMOND FIBRE RECEPTACLES
CONTINENTAL-DIAMOND FIBRE CO., NEWARK 21, DEL.

▼ REPRINT—Identify by IEN-2873 ▼

Amazing

FLASH BOX OPENER

Opens Any Carton Quicker . . . Cleaner

Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit reuse • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price $1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▼ REPRINT—Identify by IEN-2874 ▼

TESTING . . Resistance instrument to test insulation, direct ohm reading

Source: JAMES G. BIDDLE CO.
1314-18 Arch St., Philadelphia 7, Pa.

New assembly [illegible]

Bulletin [illegible]

▼ REPRINT—Identify by IEN-2875 ▼

BATTERY . . Silver-zinc design in five ratings from .5 to 40 amp. hr.

Source: YARDNEY INTERNATIONAL CORP.
105-7 Chambers St., 2nd Floor, New York 7, N. Y.

Light weight is a factor [illegible]

We should have [illegible]

▼ REPRINT—Identify by IEN-2876 ▼

SWITCH . . Pendant housing encloses Micro pushbutton type switch

Source: MICRO SWITCH CORP.
30 E. Spring St., Freeport, Ill.

No. [illegible]

The plastic housing [illegible]

▼ REPRINT—Identify by IEN-2877 ▼

CUTTING . . Abrasive disc machine for square cut through hydraulic hose

Source: AEROQUIP CORP.
303 S. East Ave., Jackson, Mich.

Ball bearing [illegible]

A hose is marked [illegible]

▼ REPRINT—Identify by IEN-2878 ▼

The World's Most Advanced ½" ELECTRIC DRILL

Much Smaller
Much Lighter
For More POWERFUL!

THE Silver Line BY Thor

INDEPENDENT PNEUMATIC TOOL COMPANY
AURORA, ILLINOIS
PIONEERS IN PORTABLE TOOLS

Thor PORTABLE POWER TOOLS

▼ REPRINT—Identify by IEN-2879 ▼

NU-MATIC

MAKES AN IDEAL CONTACT WHEEL

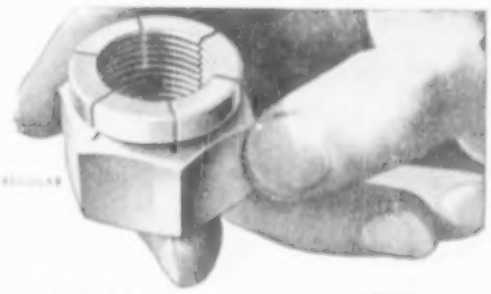
FOR BACK STAND IDLERS

Because Nu-Matic Grinders can be inflated for hard, medium and soft grinding surfaces, they eliminate the necessity for 3 wheels and changing wheels for different operations. Standard 2½" abrasive belts can be changed in a matter of seconds. Low pressure provides surfaces smooth for contact buffing and polishing. You'll be amazed at the many operations where Nu-Matic Grinders save time and money. Adaptable for ½", 1", 1½" or 2" power equipment (specify size).

Adaptable to bench portable or flexible shaft power.

NU-MATIC GRINDERS, INC., 10304 W. McNICHOLS RD.
Detroit 21, Michigan University 3-2573

▼ REPRINT—Identify by IEN-2880 ▼



FLEXLOC

ONE-PIECE SELF-LOCKING NUTS

WON'T SHAKE LOOSE!
ELIMINATE "NUT" TINKERING!
REDUCE MAINTENANCE COSTS!

Every day we learn of more FLEXLOC Self-Locking Nuts being used in industry because they are superior fasteners and reduce maintenance costs. Here is a nut that has stood challenging shock, vibration, yet when it has serviced such a when needed and its function, the strong, tamper-proof FLEXLOC has no extra parts to lose or forget!

Do you not by FLEXLOC Self-Locking Nuts for your maintenance? Find out for yourself how this adjustable "fastening" with plain nuts and save money. Write for free Data.

Send for samples and our Catalog AFF-5.
See us at Booth 113, A.S.T.E. Exposition, April 10-14, Convention Hall, Philadelphia.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 19, PENNSYLVANIA

PREFIX—Identify by IEN - 2881 if you write the maker

WICKWIRE SPENCER SPRINGS

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL & IRON CORPORATION

Spring Sales Office & Plant — [illegible]

Executive Office — [illegible]

Sales Offices — [illegible]

PREFIX—Identify by IEN - 2882 if you write the maker

You can lift heavy loads 15 times as fast with a Whiting electric hoist as you can with a hand hoist. Skilled workers and expensive machines can be released for productive work, and usually, the Whiting hoist will pay for itself in a very few months.

Workers are enthusiastic about Whiting hoists, too, as they eliminate the danger of rupture and strained muscles.

Whiting hoists have a unique, double worm-gear drive that provides smooth, silent power and makes possible amazing simplicity. They will last longer because they have fewer moving parts than any electric chain hoist.

WHITING

Builders of Cranes, Monorail Systems and ELECTRIC HOISTS

Write for Bulletin H-100B.

WHITING CORPORATION
15625 Lathrop Ave., Harvey, Illinois

☐ Send me a copy of your Bulletin H-100B.
☐ Send me the name of the Whiting Distributor in my locality.

NAME

STREET ADDRESS

CITY STATE

PREFIX—Identify by IEN - 2884 if you write the maker

BENDING . . Hydraulic machine for solid, tubular, shaped materials

Source: O'NEIL-IRWIN MFG. CO.
318 Eighth Ave. S., Lake City, Minn.

Hydra-Power is a new hydraulic machine in the company's [illegible] line that can be set up to make simple, compound and contour bends on 2 production units. The machine is powered by 5-horse egg-power built into the base with a 2-hp. motor for bending speed between 6 and 12 rpm. Control centers at a lever-operated valve for variable bending action and quick return. Setup can be made with one or the other of two types of bending for steel tubes to 1½ in., standard iron pipe to 1 in., metal conduit to ¾ in., square to 1 ½ x ½ in., flat steel bar to ¾ x ½ in. 8-2 square-to bending. Other work can be handled to comparable capacity.

No. 6 die-pocket tooling with regular clamp and forming roller as shown to the left and center in the illustration. Tubing can be formed to an inside radius as small as twice the outside diameter. Maximum radius is 9 in. max. Maximum rate of bend is 200 degrees. Tool assembly cost is $1,063 for 1½-in. tubing and 1½-in. tube.

No. 8 tooling, to the right in the illustration, employs a rotating mounting plate and an adjustable forming wear. The wear, backed by a form on the plate, is drawn past the wear on a roller. In this case bending capacity is to 22 in. and the work can be rotated through a complete circle as in forming a closed ring. The machine sells at $2,320 in this setup with standard tooling supplied for a 2-in. radius.

PREFIX—Identify by IEN - 2885 if you write the maker

LOCK . . Two-part concealed latch engages, releases on surface pressure

Source: NATIONAL LOCK CO.
1940 Seventh St., Rockford, Ill.

New design of the Tubular Latch, previously described IEN-0004 is available for metal and wood cabinets, cupboards, enclosures equipped with swinging doors. The assembly for metal doors snaps into position. The one for wood doors is held by screws.

Initial light pressure against the closing door engages the latch so it holds positively. The unit will disengage on an opening pressure application to permit the door to swing open. No pull is required. Thus the door can be closed or opened by an individual with both hands occupied. Housing dimensions are approximately 3 in. x ⅝ in. x ⅝ inch.

PREFIX—Identify by IEN - 2886 if you write the maker

VALVE . . Temperature actuated ¼, ⅜, ½ in. for flow control

Source: BURLING INSTRUMENT CO.
251-3 Springfield Ave., Newark 3, N. J.

Model V is a new assembly of the well-known line valve and [illegible] control element that comes thus operated by [illegible] in a temperature-sensitive line. As actuating [illegible] the valve closed and of the [illegible] leakage of gases the valve stems at [illegible] temperature change. The point of operation is set by turning a knob on a temperature dial on the bonnet.

Overall range in which the valve is adjustable is from 50 to plus 1,000 deg. F. Operation is open or close as due to temperature can be specified. The housing is made of aluminum alloy. The valve housing is bronze. The valve is suited for air, gas, gasoline or steam. Water. The housing measures about 4¼ in. in height. The actuating bulb is about 7 in. in length by ⅝ in. in diameter.

PREFIX—Identify by IEN - 2887 if you write the maker

VALVES · DARTS & PIC UNIONS · TRUCKS · CASTERS

PREFIX—Identify by IEN - 2888 if you write the maker

B.F.Goodrich

announces

TIREWAY A W ANALYSIS PLAN for materials handling

• HOW IT WORKS

An experienced tire and wheel man will survey your operation. He will study loads, hauls, handling equipment, floors and hauling surfaces, and discuss any special tire and wheel problems you may have. On completion of this survey the BFG man, without charge or obligation on your part, will recommend the best type and size tires and wheels for your particular service, including suggestions on tire care and maintenance.

• HOW YOU SAVE

Tire and wheel costs can be cut up to 50% through the application of the right type, size and tread compound, to the job. (Studies show improvements can be made in two out of three operations.) Proper tire maintenance alone can cut tire and wheel costs 10% to 20%.

• WHY YOU GET IMPARTIAL RECOMMENDATIONS

No other company offers as wide a range of types, sizes, and tread compounds as B. F. Goodrich. There is no selfish reason for a B. F. Goodrich man to push any one type of tire against another. He has them *all*. His advice is impartial.

• 14 TYPES OF TIRES — 6 DIFFERENT TREAD COMPOUNDS

B. F. Goodrich offers a complete line of tires for materials handling equipment — pneumatics, puncture-sealing inner tubes, solids including pressed-on and vulcanized-on types, zero pressure types, (semi pneumatics). There's a wide choice of tread designs in each type and 6 different tread compounds for 6 different purposes on the solid tires. Only B. F. Goodrich handles complete lines of types, compounds and sizes.

Today—send the coupon for information on this new and practical Tire and Wheel Analysis plan. A similar program is available for manufacturers of materials handling equipment.

The B. F. Goodrich Co.
Department TW-32
Akron, Ohio

Please send me additional information on Tireway A W Tire and Wheel Analysis plan.

Name

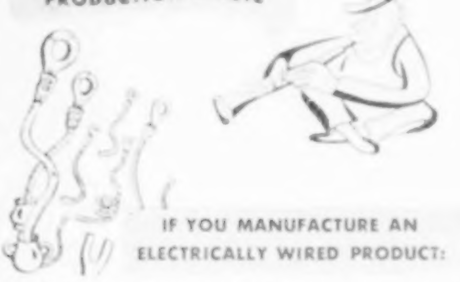
Title

Company

City State

▼ IEN - 2890 ▼

Use AMP PRE-INSULATED SOLDERLESS TERMINALS FOR PRODUCTION MAGIC



IF YOU MANUFACTURE AN ELECTRICALLY WIRED PRODUCT:

SAVE TIME!

REDUCE COSTS!

IMPROVE QUALITY!

AMP TERMINALS ARE ALL THE MAGIC YOU NEED TO HELP MARKET YOUR ELECTRICALLY WIRED PRODUCTS BETTER, QUICKER, AND CHEAPER.

ALL TERMINALS WITH PRE-INSULATION ARE PROTECTED BY U.S. PATENT

AMP

AIRCRAFT-MARINE PRODUCTS INC.

1507 N. FOURTH STREET, HARRISBURG, PA.

▼ IEN - 2891 ▼

GRC offers quick service, low cost on strong, good-looking wing nuts of rust-proof zinc alloy. All commercial finishes, all popular thread sizes. Wing nuts with special threads or untapped wing nuts also available. Inquiries invited for special wing nut designs.

Write today for samples and prices.

IMMEDIATE DELIVERIES IN ANY QUANTITY

GRIES REPRODUCER CORP.

797 EAST 132nd STREET, NEW YORK 54, N. Y.

▼ IEN - 2892 ▼

ROLL TRUCKS & SKIDS

RōL TRUK

IRONBOUND

BOX & LUMBER COMPANY

52 HOFFMAN PLACE • HILLSIDE, N. J.

SKIDS • SEMI-LIVE SKIDS • DOLLIES • FLOOR TRUCKS

▼ IEN - 2893 ▼

BLOWER . . Motor driven centrifugal, three sizes, 100 to 600 cfm. at 3 in.

Source: SUTTON MFG. CO.
112-16 W. Wilson Ave., Norfolk 10, Va.

Aluminum housing . . .

Applications . . .

▼ IEN - 2894 ▼

STEEL . . Stainless alloy is hard, strong, elastic, rust proof

Source: ARMCO STEEL CORP.
701-5 Curtis St., Middletown, Ohio

Complete data on request

Armco 17-7 PH . . .

The steel . . .

▼ IEN - 2895 ▼

ELEVATOR . . Self-contained, one to three story design, to 2 ton

Source: WEST BEND EQUIPMENT CORP.
297-301 S. Water St., West Bend, Wis.

Installation space is all that is required for application of this new freight elevator in a building. . . .

▼ IEN - 2896 ▼

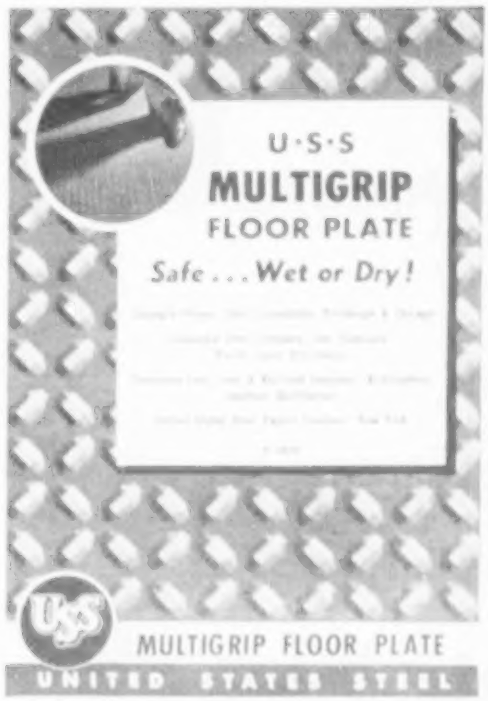
PRESS TOOLS . . Zinc alloy dies to order for use in drop hammer

Source: CHAMBERSBURG ENGINEERING CO.
Derbyshire St., Chambersburg, Pa.

New service . . .

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ IEN - 2897 ▼



▼ IEN - 2898 ▼

for Model Kitchens!

DETROIT STAMPING CO.

342 Midland Avenue • • Detroit 3, Mich.

▼ IEN - 2899 ▼

The UNBRAKO Socket Head Cap Screw

SOCKET UNBRAKO SCREWS

SPS STANDARD PRESSED STEEL CO.

JENKINTOWN 18, PENNSYLVANIA

▼ BREVITY—Identify by IEN - 2900 if you write the maker ▼

SABIN *One Man* BARREL TRUCK

*S*AVES 1 to 2 HELPERS

Why use a truck that requires two or three men to load with 800 pound barrels or drums when ONE MAN can do the job easily and at less cost with a Sabin Truck? He runs truck up to container, hooks on at top, then pulls back on handle—that's all. Exclusive third wheel feature adds to ease and safety in moving loads.

Write for Bulletin No. 46-A

SABIN *One Man* COIL TRUCK

SAVES TIME in handling wire coils, strip coils, wheels, tires or anything with a hole through it.

You simply run truck up to article, passing adjustable arm through hole, then pull back on handle to pick up load. This truck also has the Exclusive Third Wheel Feature. WRITE FOR BULLETIN.

The Sabin Machine Co.
6540 Carnegie Avenue
Cleveland 3, Ohio

▼ BREVITY—Identify by IEN - 2903 if you write the maker ▼

DUST COLLECTING . . Cleaning device for the company's bag type equipment

Source: W. W. SLY MFG. CO.
4752 Train Ave., Cleveland 2, Ohio

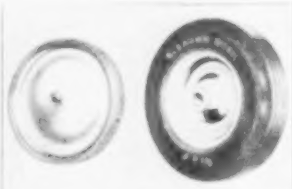
Dynaclone trade names new bag-cleaning device for application on new or existing assemblies of the bag-type dust collecting equipment. The new device eliminates periodic shaking of the filter bags to remove built-up dust. It maintains operation of the collector at a uniform rate. It employs the draft set up by the main air-handling fan or blower to keep the filter cloth surfaces clean. The company is prepared to quote on addition of the device to existing equipment.

The main fan A creates suction that draws in dust laden air through B to the dust chamber C. The filter bag surfaces stop the dust and pass the air into the clean air chamber E, except for the bags that are covered at the moment by the traveler F. This traveler blocks off three bags at a time and is fitted with a flexible tube D permitting air at atmospheric pressure to enter from the outside. This air will flow in reverse direction through the central bag of the three blocked off because chamber C is at less than atmospheric pressure. The air flow cleans the bag and so does the others progressively as the traveler moves back and forth on suitable drive.

▼ BREVITY—Identify by IEN - 2904 if you write the maker ▼

WHEELS . . Steel disc design with solid and semi-pneumatic tires

Source: GLEASON CORP.
532-36 N. 9th St., Milwaukee 3, Wis.



Solid rubber with a flat tread 1⅜ in. in width is employed in the new Series 225 steel-disc wheel shown to the left in the illustration. Three overall diameters are 6, 8 and 10 inches. Load rating is 100 pounds. The wheels are equipped with hubs 2¼ in. in width in which ball or oil-impregnated plain bearings can be specified. Bore diameters in ½ and ⅝-in. axles.

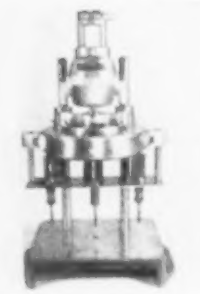
Semi-pneumatic tires are standard on the new Model 650 wheel shown to the right. This unit measures 8 in. in overall diameter and has a 1⅝-in. tire section. It is available with ball bearings or oil-impregnated bushings for ½ and ⅝-in. axles in a hub width measuring 1⅞ inches. Load rating is 80 pounds.

A third new design, not illustrated, is a semi-pneumatic wheel with 8 in. outside diameter and tire section measuring 1⅝ inches. Tread width is ⅞ inch. Load rating is 80 pounds. Hub width is 1⅝ inches. The hub is fitted with an oil-impregnated bushing for a ½-in. axle.

▼ BREVITY—Identify by IEN - 2905 if you write the maker ▼

THREADING . . Multi-spindle head with reversing tap drive, also drills

Source: ETTCO TOOL CO.
592-6 Johnson Ave., Brooklyn 6, N. Y.



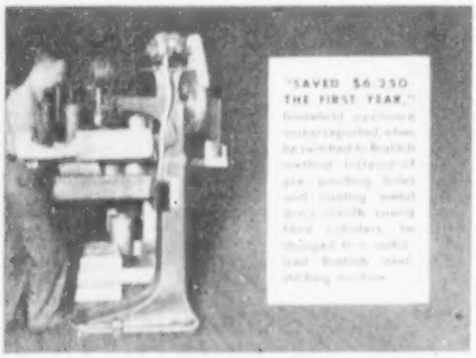
Capacity is for threading or drilling holes to ⅜ in. in steel in this new combination multi-spindle head. It is shown in the illustration to setup for threading, with the reversing drive in place on the gear housing at the top and ready to be applied on a drilling machine spindle. This drive is removed, and a non-reversing unit is put in its place when the head is to be employed in drilling. Gear ratio between the drive and the spindles is 1 to 1.143.

Two to five spindles can be specified with provision for adjustment to 1⅛ in. in minimum center distance. The two-spindle unit can be set to tap or drill on a minimum 1⅛-in. bolt circle. The five-spindle assembly is minimum at 2⅝ inches. Maximum bolt circle is 8⅝ in. for two spindles, 9⅝ in. for five. A single spindle can be located at any point on a 7⅝ in. diameter circle.

Bulletin M, 4 pages, illustrates the complete assembly including the various integrate and guided work base, provides specification information and describes the construction.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . . Descriptions . . . Ratings . . . See Page 50

▼ BREVITY—Identify by IEN - 2901 if you write the maker ▼



"SAVED $6,250 THE FIRST YEAR," household appliance maker reported, when he switched to Bostitch method instead of pre-punching holes and riveting metal discs inside round fibre cylinders, he changed to a radial Bostitch steel stitching machine.

PRODUCTION DOUBLED for knob manufacturer after Bostitch foot-operated stapling machine replaced slower methods of fastening metal ferrules to wooden handles.

50% SAVINGS IN TIME AND LABOR for furniture maker when Bostitch automatic stapler replaced slower methods of applying hardware and padding.

Which of the

800 BOSTITCH MACHINES WILL CUT YOUR FASTENING COSTS MOST?

The Bostitch fastening method includes more than 800 different machines for stapling, tacking and wire stitching. One or more of them may be just what you need to reduce your product costs and faster work. Why not find out?

Fill in and mail the coupon below . . . today.

Attach this coupon to your letterhead

BOSTITCH, 456 Mechanic Street, Westerly, R. I.

BOSTITCH fastens it better *and faster* with wire

ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

▼ BREVITY—Identify by IEN - 2906 if you write the maker ▼

Flexcelo FIRE HOSE *at last.*

COTTON-JACKETED RUBBER-LINED FIRE HOSE FOR INSIDE USE

Flexcelo Fire Hose, a sensational new single-jacketed, cotton, rubber-lined fire hose, is now ready for your cabinet or wall-type hose racks.

Thoroughly tested and approved by Factory Mutual Laboratories, Flexcelo Fire Hose gives you greater protection and vastly better service than any unlined hose you've ever used.

Flexcelo is easier to handle! It's easier to fold and it's extremely flexible even under pressure.

Because Flexcelo is a rubber-lined hose, there's never any leakage of water through the jacket. This eliminates hose-drying problems and ends the costly mess of getting water anywhere but on the fire.

Flexcelo Fire Hose is available in 1½ inch size in 25, 50, 75 and 100 foot lengths. Every length is shipped complete with brass couplings, and for long-time protection against mildew, Flexcelo is available with Republic's exclusive Rivnel Process.

Your Republic Distributor can give you all the facts. Consult him today or write Republic direct for further information.

MECHANICAL RUBBER GOODS BY REPUBLIC RUBBER DIVISION

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN, OHIO
LEE DELUXE TIRES & TUBES, CONSHOHOCKEN, PA.

▼ BREVITY—Identify by IEN - 2907 if you write the maker ▼

CAST SPECIAL SHAPES QUICKLY . . . EASILY

. . . with these FIRECRETE Castable Refractories

Special shapes or linings of Firecrete are hardened and are ready for service within 24 hours. Other advantages—no drying shrinkage, negligible firing shrinkage, high resistance to spalling, can be used in combination.

3X Firecrete—Effectively withstands striking temperatures up to 3000 F.

Standard Firecrete—The most generally applicable type of Firecrete—for use to 2400 F.

H-T Firecrete—For high temperature applications.

L-W Firecrete—A lightweight insulating refractory for use to 2400 F. Has low conductivity, low heat storage capacity and high resistance to spalling.

For patching and gunning, use 3X BLAZECRETE. Has exceptional adhesive qualities, can be tapped into place with a trowel without ramming or tamping. For use to 3000 F. For further information, write to Johns-Manville, Box 290, New York 16, N. Y.

JM Johns-Manville FIRECRETE "The Standard in Castables"

▼ BREVITY—Identify by IEN - 2908 if you write the maker ▼

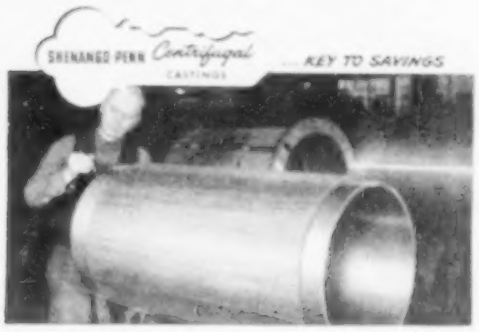
Sheet Cutting *Made Easy* . . . with the KETT POWER SAW

• Sheet cutting's a snap with this amazing new Kett Portable Saw. Most any kind of sheets . . . mild steel up to 10 gauge, aluminum up to ⅜", plastics and other soft materials up to ¼" . . . are cut with new ease and speed. Does everything and more than shears and nibblers do. No starting hole required . . . start anywhere and cut a smooth finished edge . . . straight or contour. Adjustable guide and guard assure safety and accuracy . . . even when used by inexperienced men. Customary blades are available.

Saves time by doing jobs "on-the-job". Ask your distributor for an eye-opening demonstration or write for Bulletin A-3.

The KETT *Tool Company*
5 EAST THIRD ST. CINCINNATI 2, O.

IEN - 2909



Extra life for symmetrical parts

ASK FOR BULLETIN

SHENANGO PENN

All Designs • Monel Metal • Hi-Resist • Manganese Metal

IEN - 2910

NEW "TAPE" GETS GREATER STRENGTH, FLEXIBILITY FROM GLASS...

"TOUGH BUNDLING" OF PREFABRICATED STEEL PARTS MADE EASY WITH EXTRA STRONG **PERMACEL IS** FIBERGLAS THREAD REINFORCED TAPE. HOLDS FAST SAVES TIME – REPLACES WIRE, STEEL STRAPPING!

UNIQUE CONSTRUCTION OF PERMACEL IS: SURPRISINGLY STRONG FINE SPUN GLASS THREADS ARE SEALED TO TOUGH KRAFT BACKING WITH ADHESIVE COATING. SAFE, FLEXIBLE – SUPPORTS ITS LBS. PER INCH WIDTH

SEND FOR FREE BOOKLET! SHOWS HOW TAPE CAN HELP IN YOUR BUSINESS Whatever your business, chances are you'll find the facts, figures and pictures in this 12-page booklet will help you cut costs!

Just fill out the coupon – and mail it today – to the address below for your copy.

INDUSTRIAL TAPE CORP. NEW BRUNSWICK, N. J.

NAME

TITLE

COMPANY

ADDRESS

CITY STATE

Permacel

INDUSTRIAL TAPES

INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

IEN - 2912

BOILER . . Self-contained design to 500 hp., operates on oil or gas

Source: AMES IRON WORKS
23-27 E. 2nd Ave., Oswego, N. Y.

A new size has been added to the Aquastoker line of self-contained boilers to bring the maximum capacity of the line to 500 hp. Pressures range up to 150 psi for use in the power and process industries. Equipment includes complete equipment to burn oil, gas or any combination, automatic controls, the necessary piping for connecting operation, complete boiler room and a metal jacketed, insulated boiler shell. Blowers and fuel pumps are supplied for 1800 or higher pressures. The standard is for a single fuel, but dual fuel is available as an option. Foundation.

The burner [illegible]

IEN - 2913

PRINTING . . Photosensitized cloth to produce a direct positive copy

Source: EASTMAN KODAK CO.
341-5 State St., Rochester 4, N. Y.

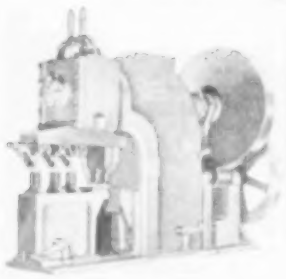
20 to 42 inches
by 30 or 100 feet

Translucent [illegible] copy. Direct from a positive original. Exposure. The cloth can be handled in normal room light. It is exposed in conventional equipment, using ultra-violet equipment or in a standard frame in PA actinic lighting. The reproduction is free from dirt. The cloth can be [illegible] on either side using ink or pencil.

IEN - 2914

PUNCHING . . Universal machine for structural and fabricating shops

Source: KLING BROS. ENGINEERING WORKS
1202 N. Kostner Ave., Chicago 51, Ill.



Universal No. 12 is a new machine in the Company's line of punching equipment. It has bow capacity to 25½ in. in the equipment through 1⅛ in. mild steel. It will take 8 in. to 36 in. I beams and 5 in. channels. Bow depth is 12 inches for holes in web or flanges. Punching rate is 16 to 225 cycles. Overall depth is 28½ inches. Stroke is 2½ in. Bed is a flat area.

Equipment includes a two-punch row, die holder, a three-punch high die holder, two gooseneck holders and the usual and guarding equipment. The tool for changing setup of punch from web or flange has been [illegible]

IEN - 2915

CONVEYING . . Vibrating trough unit handles granular and bulk materials

Source: JEFFREY MFG. CO.
914 N. 4th St., Columbus 16, Ohio

Vibrating action is imparted at variable frequency to the trough of this new type MT conveyor by a [illegible] drive. Trough [illegible] to hold [illegible] capacities. The [illegible] is [illegible] capacity. Trough is the [illegible] with the [illegible] and [illegible]. The length is variable. Frequency of the [illegible] is [illegible]. The speed of the trough is variable. The [illegible] is [illegible].

Each driving unit [illegible] shaft [illegible] Frame [illegible] in. [illegible] Trough [illegible] in. [illegible] Control is by a foot switch. [illegible] can be [illegible] on an [illegible].

All Makes of These And All Other Products Are Listed in THOMAS REGISTER Descriptions Ratings See Page 50

IEN - 2916

IEN - 2917

get the whole picture

here's a COMPLETE LINE of blind fasteners

In your fastening jobs, verify from Cherry Rivet Company's complete line of blind rivets and high strength structural bolts.

CHERRY RIVET The standard blind rivet of industry. Meets requirements for Air Force and Navy Aircraft, and high quality industrial needs.

BLIND BOLT Large-diameter blind fastener for heavy sheet metal assembly jobs.

LOCK BOLT A high-strength structural non-blind fastener for use where shear and tension loads are high.

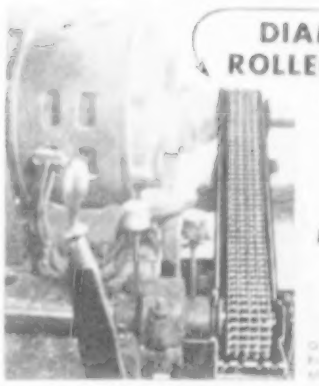
DRIVE PIN RIVET Installed with a hammer. Ideal where sheets are being installed against rigid framework.

UTILITY RIVET Low-cost straight-stem, mechanical, blind rivet manufactured to less critical quality control standards than regular Cherry Rivets. Ideal for low-cost, high-volume, fastener requirements.

Cherry Rivet COMPANY
232 WINSTON STREET, LOS ANGELES 13, CALIF.

Write for data & prices

IEN - 2918



DIAMOND ROLLER CHAIN DRIVES LIKE THIS

Reduce Maintenance and Delays

Diamond No. 424 Diamond Roller Chain from 100 H.P. 600 R.P.M. Motor

The performance of DIAMOND Roller Chain Drives helps greatly to insure maximum results when requiring minimum of operating and maintenance. Features, [illegible] advantages of each suggestion and all sound engineering are required when to insure continuous operation.

For important chain or machinery drives you can get maximum results with Diamond Roller Chain. Design DIAMOND CHAIN COMPANY, Inc., Dept. [illegible], 402 Kentucky Ave., Indianapolis, Indiana.

Write for catalog Chain Data Book Catalog [illegible]

DIAMOND ROLLER CHAINS

REFFITT—Identify by IEN-2919 if you write the maker

REFFITT—Identify by IEN-2920 if you write the maker

Alnor Velometer

Gives instant, direct reading of Air Velocity —Anywhere!

Here's a precision-built, self-contained, portable instrument that gives instant, accurate reading of air velocities—everywhere, in plants, mines, or mills. Measures speed of flow through ducts, grilles, meters, furnaces, or in the open. Needs no calculations or reference charts. Anyone can use it and get accurate measurements. Available in a wide range of scales, and with a wide assortment of jets and fittings if needed. You'll want full details and prices, so write for Bulletin No. 2448-G. Illinois Testing Laboratories, Inc., Room 517, 420 N. Lafayette Street, Chicago 10, Illinois.

Alnor

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

REFFITT—Identify by IEN-2921 if you write the maker

KEYWAYS

99¢ A DOZEN

YES SIR! With a du Mont Minute Man Keyway Broach and Burning-Setting only 99¢ [illegible] keyways in gears, sprockets, hubs, pulleys, couplings . . . [illegible] a dozen.

ONE MINUTE PER KEYWAY

Minute Man [illegible]

CLIP AND MAIL THIS COUPON

The du MONT CORPORATION
Greenfield, Mass.

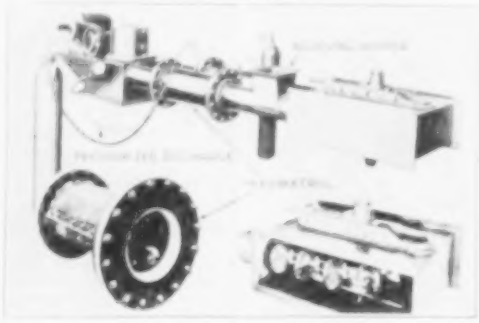
Please mail me Descriptive Folder and Price List N

Name
Company
Address

REFFITT—Identify by IEN-2922 if you write the maker

CONVEYING . . Tubular flight design receives and delivers at two pressures

Source: HAPMAN CONVEYORS INC.
2403-7 W. McNichols Road, Detroit 21, Mich.



New air lock section and a new air-tight delivery head with suitable return and takeup heads make up new assembly at the company's tubular flight conveyor. It is known as the Pneumatrol unit. It permits receiving materials to convey at one pressure and discharging them at another pressure which may be above or below atmosphere. The conveyor operates in a closed circuit and employs the new air lock on both delivery and return runs to isolate the pressures from each other.

The illustration shows a set up with a receiving hopper to take in materials at atmospheric pressure. The rubber flights then forward the material through the Pneumatrol air lock for discharge in the air-tight head to the left. From here the flights travel back in the return tube to pass through a second air lock in the return takeup head for passage once more under the intake hopper.

The Pneumatrol lock consists of a section of flanged tube larger in diameter than the bore of the outboard tube, as tube a yellow shows that. Seal bars substantially the tube bore. Pressure is introduced between the outer tube and the sleeve to cause it to contract radially and seal against axial air leakage with the conveyor flights. Thus there can be one pressure in the bore at one end of the tube and another pressure at the other end. Air, gas, water can be employed as the pressurizing medium back of the sleeve. The equipment is available to specifications for materials and operating conditions including capacity, pressures, temperatures.

REFFITT—Identify by IEN-2923 if you write the maker

VALVE . . For line shutoff service, ceramic body, stem, for gas, chemicals

Source: EMMETT MACHINE & MFG. CO.
2249-3 Fourteenth St., S. W., Akron 14, Ohio

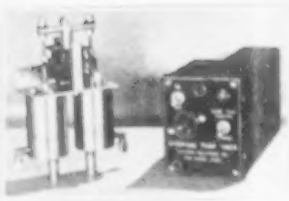
Merit Ceramic [illegible] valve with diaphragm or for hand operation to shutoff service on electronic gases, non-corrosive or dilute chemicals except hydrofluoric acid or hot alkali concentrate. Pressure capacity is up to 200 lb. with temperatures to 1000 deg. F. [illegible] from 4g cast iron.

Installation is with [illegible] screwed or flange ends with Marlatone [illegible] or tape screws. Flange surfaces are machined [illegible] of the ceramic parts to [illegible]. The Pneumatrol is supplied to customer specs. Its wide operation is [illegible] hand and self-lubricating stems.

REFFITT—Identify by IEN-2924 if you write the maker

FEEDING . . Dual piston pump, solenoid operation, electronic control

Source: EASTERN INDUSTRIES INC.
294-98 Elm St., New Haven 6, Conn.

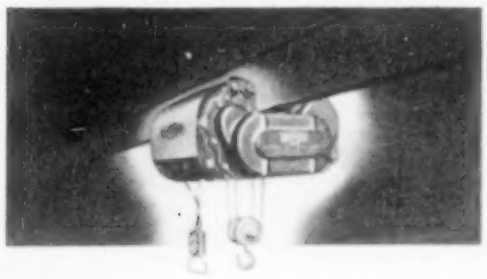


Liquid is drawn in through connections on the sides of the two cylinder [illegible] at the bottom of the [illegible] pump [illegible] the pump. The [illegible] of the [illegible] cylinder [illegible] the pump [illegible] the pump [illegible] the pump

▼ REPRINTS—Identify by IEN-2928 if you write the maker ▼

▼ REPRINTS—Identify by IEN-2929 if you write the maker ▼

Only LO-HED gives ALL these advantages!



TODAY'S BEST BUY is Lo-Hed Electric Hoists. Lo-Hed is the only "Enhanced design" hoist that offered longer working life at lower cost. With no working parts under the I beam or track, they fit loads higher. They are a transmission that protects operators — a concealed bottom block — a hook hung on a revolving bearing — more reliable electrical cables.

Lo-Hed Hoist cover in five capacities (open and a range of capacities. Mail coupon for full data.

LO-HED MEANS LOW OVERHEAD

AMERICAN ENGINEERING COMPANY
PHILADELPHIA 25, PA.
Other AE Products are Taylor and Pulsar Spread Stakers, Marine Deck Auxiliaries, Hole-Show Field Pound, Lo-Hed Car Shakers, Lo-Hed Car Pullers

▼ REPRINTS—Identify by IEN-2930 if you write the maker ▼

▼ REPRINTS—Identify by IEN-2931 if you write the maker ▼

CONVEYING . . Bucket elevator chain rates 6,500 to 11,500 work load pounds

Source: BEAUMONT BIRCH CO.
1503-7 Race St., Philadelphia 2, Pa.

Beaucalloy triple square pin bushed chain now used on the links of this new elevator chain. The links are made in three sizes from 4½ in. to 6 in. in width and are sold with pins measuring ⅝, ¾ and ⅞ in. in diameter. The pins are ground to minimum tolerance. They are fitted with bushings in link holes (shown) that prevent binding in the links and at the link bearing areas with no in the barrel of each pin.

Shoulders on the pins prevent the bushings in addition to those that prevent turning and that attach the outer plate. Keepers are used on links in the first. The other two have 20 in. overhanging link below the computer's own equipment. Type 4 Hyker, or the new Dynamic Lock bucket, 304 bucket with Beaucalloy 8 in. 5 in. 10 in. 20 in. 30 in. 40 in. 50 in. 60 in. Load capacity is 6,500 to 11,500 lbs. Load.

▼ REPRINTS—Identify by IEN-2932 if you write the maker ▼

FLOORS . . Vinyl plastic links are wire assembled, widths to 5 feet

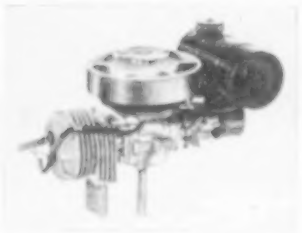
Source: AMERICAN MAT CORP.
1776-80 Adams St., Toledo 2, Ohio

Exerted trade showed a new mat made of vinyl plastic links in one of five textured colors, the outer layer of the links resembling pour tiles. The opposite face which is "up" in use, application is encouraged to afford a holding surface. Assembly is in a wire network made of spring wire. The wires are bent to a corner pass through pairs (or more in the connection). Width is to 5 feet. Any length can be used. Wire connections in the mat clamp a section of the links where the mat is bent.

▼ REPRINTS—Identify by IEN-2933 if you write the maker ▼

ENGINE . . Vertical gasoline unit, 1 hp. at 3,200 rpm., single cylinder

Source: POWER PRODUCTS CORP.
49 Power St., Grafton, Wis.



Model 200 is a new vertical engine to the company's model series line. Its power is 1 hp. at 3,200 rpm. Its speed is adjustable, stationary and governed. Its carburetor is a new model. Its ignition is a new model. Its starter is a new model. Its fuel tank is a new model. Its muffler is a new model. Its weight is 40 lbs. Its dimensions are 12 in. x 12 in. x 12 in. Its price is $[illegible].

Overall dimensions [illegible]

▼ REPRINTS—Identify by IEN-2934 if you write the maker ▼

PUMP . . Motor driven centrifugal has permanently sealed 1/70 hp. motor

Source: THOMAS BECKETT & CO.
P. O. Box 7354, Dallas 9, Texas

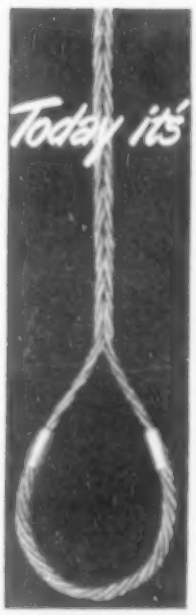
The housing, impeller and case of this unit, Model D 100 AVH-1 for pump are made of molded resins and are [illegible]. The motor shaft is electrical steel. Dimensions are [illegible]. Motor specs are [illegible]. Application and [illegible] are [illegible].

Rating is [illegible]

All Models & Prices And All Other Products Are Listed In [illegible] Descriptions Ratings [illegible]

▼ REPRINTS—Identify by IEN-2935 if you write the maker ▼

▼ REPRINTS—Identify by IEN-2936 if you write the maker ▼



TO LIFT LOADS
FASTER — CHEAPER —
Today it's Roebling!

ROEBLING
"FLATWEAVE" SLINGS

YOU'LL SAVE TIME and money with Roebling "Flatweave" Slings. They bend, fit, hang, and distribute the load pressure and prolong the life of the sling. And "Flatweave" measure and pack to handle! They are very flexible and kink resistant — pass easily through and under loads of minimum clearance — heavy thimbles and serving are not needed.

Adopt Roebling "Flatweave" Slings for top speed, safety and economy. And write today for a copy of the "Roebling Sling Data Book." It's free — gives the latest information about slings and sling accessories. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING
A CENTURY OF CONFIDENCE

▼ REPRINTS—Identify by IEN-2937 if you write the maker ▼

ILLINOIS
STEAM SPECIALTIES

[illegible]

Investigate! Compare! Try Illinois Traps on your worst service and be guided by results!

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
ONTARIO AVENUE AT 2ND STREET • CHICAGO 22

▼ REPRINTS—Identify by IEN-2938 if you write the maker ▼

Best Buy

FOR BIG USERS
. . . the
BIG 10-ROLL CAN of
GOLD SEAL TAPE

Packed for your convenience . . . 10 rolls of cellophane wrapped Gold Seal Tape in a handy 5 pound container. It's the best buy for regular users. Every roll is double protected for factory freshness.

Whatever way you buy tape, you'll find Gold Seal always not right on "tack"—clean handling non-curling, non-peeling. Try it. Jenkins Bros. (Rubber Div.) 80 White St., New York 13.

Jenkins Bros. also makes Genuine Red Packing and Rubber Tapes which meet ASTM and Federal Specifications.

JENKINS Gold Seal Tape
FRICTION . . . RUBBER

MADE BY JENKINS BROS. . . . MAKERS OF FAMOUS JENKINS VALVES

▼ REPRINTS—Identify by IEN-2939 if you write the maker ▼

Why Allis-Chalmers Intrusts Heavy-Duty Insulation Jobs to BAKELITE Resin-Based Laminates

• Paper-base BAKELITE Phenolic washers and tubes take on the dual task of insulating and supporting the collector rings and brush holders of this 1,500-hp, 2,300-volt, three-phase, 60-cycle, wound rotor motor for steel mills.

Over the years, Allis-Chalmers Manufacturing Co. has depended on laminated plastics made with BAKELITE Phenolic Resins for scores of similar insulation jobs on its heavy-duty equipment because:

BAKELITE Plastic Laminates are engineered specifically for durability, high mechanical and electrical strengths, moisture resistance, high temperature resistance, and a long list of other special properties—in almost any desired combination. Plastic laminates can be machined, punched, sawed, drilled, threaded, and profiled. They are made in many grades—based on paper, fabrics, and glass cloth—to meet highly exacting NEMA standards.

If you require laminated insulating materials with a known set of properties, get in touch with Bakelite engineers. They'll gladly help to evaluate your problem, and refer you to producers of BAKELITE Phenolic Resin laminates that meet your insulation needs. Write Dept. AC-14.

Bakelite Phenolic
LAMINATING PLASTICS
BAKELITE DIVISION

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

▼ REPRINTS—Identify by IEN-2941 if you write the maker ▼

WELDING . . Inert arc machine for stainless steel, 28 gage to 1/4 in.

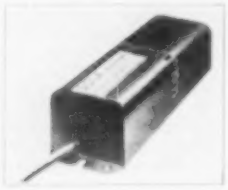
Source: McHALE MFG. CO.
1202 Mines Ave., Los Angeles 23, Calif.

New inert-arc machine has been developed for fabrication of stainless-steel sheets and plates. It consists of a pneumatic work-clamping jig, a Linde power-operated welding head carriage and Heliarc welding equipment in which a tungsten electrode operates in a shielding atmosphere of inert gas. The carriage is adjustable for welding speed of 4 to 60 ipm on its horizontal track on the jig. There is provision also to set up for interrupted welding on stepped work on 2-in. dimple spacing at 12 ipm. The company engineers the machine to its own contract work, is prepared to manufacture and supply it on specification to others for their use in fabricating stainless steel.

▼ REPRINTS—Identify by IEN-2942 if you write the maker ▼

LIGHTING . . Fluorescent ballast starts two lamps in quick sequence

Source: SOLA ELECTRIC CO.
4631-35 W. 16th St., Chicago 50, Ill.



Sequenstart is a new ballast that operates with two 48-T-12 single-pin or 1-48 bi-pin fluorescent lamps or two 60-T-17 low brightness units wired in sequence for starting action one after the other over a 1 or 2-sec. interval. Size and weight as well as cost are minimized by the arrangement.

▼ REPRINTS—Identify by IEN-2943 if you write the maker ▼

HEATING . . Dielectric machine to preheat molding plastic preforms

Source: HIGH FREQUENCY HEATING CO.
141-45 Glen Park Ave., Gary, Ind.

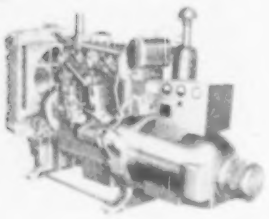
Operation of this new Pre-Form heater is at 40 megacycles. Capacity is for preforms to 3 in. in height and in number that will fit on the 6-by-8-in. drawer-type tray. The machine will raise 1½ lb. of material through 170 deg. F. in one minute.

The assembly includes a plug in connection for a 110 or 220-volt 60-cycle ac. power source, a line switch, start button, interval timer and stop button in the event that the operator wants to shut off before the end of the set interval. Assembly is on a bench. Size is 30 by 18 by 10 inches. Weight is 270 pounds.

▼ REPRINTS—Identify by IEN-2944 if you write the maker ▼

GENERATOR . . Diesel engine driven, 12½ to 55 kw., regulated voltage

Source: D. W. ONAN & SONS INC.
4145 Royalston Ave. N., Minneapolis 5, Minn.



Five new models with diesel engine for the drive have been added to the company's generating equipment. The engine is by International Harvester Company. It starts on gasoline and a 12-volt electric equipment. A switch is turned to gasoline for initial run or warm up.

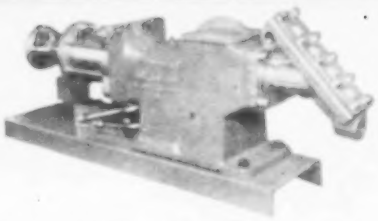
The basic models operate regardless of the engine and power [illegible] The generator is available in [illegible]

Optional equipment [illegible] Fuel tank, Fuel lines.

All Makers of These And All Other Products Are Listed in THOMAS REGISTER . . . Descriptions . . . Ratings . . . See Page 58

▼ REPRINTS—Identify by IEN-2945 if you write the maker ▼

MILTON Roy PUMPS



New! "aiROYmetric"

CONTROLLED VOLUME CHEMICAL PUMPS

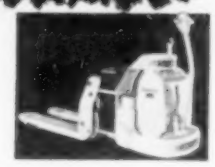
These are positive displacement, precision metering units, with the exclusive Milton Roy double-ball check liquid ends, powered by simple air cylinders. Plunger stroke length (capacity) is adjustable while operating by means of screw and hand-wheel. Capacities from 0.4 to 405 GPH. Pressures to 10,000 psi. Plunger diameters from 1/8" to 3½". For controlled volume pumping . . . practically all chemicals, slurries, solids in suspension, etc. Sanitary liquid ends are available. Ideal units for automatic feed systems. Write for Bulletin 290.

MILTON Roy COMPANY
1302 E. MERMAID AVE., CHESTNUT HILL, PHILA. 18, PA.

▼ REPRINTS—Identify by IEN-2946 if you write the maker ▼

Almost Unbelievable . . . BUT TRUE!

NOT EVEN ONE Transporter Electric Truck HAS EVER WORN OUT*



Service-Proved Features Like These Tell Why!

CHASSIS

MOTOR

DRIVE UNIT

DRIVE CONTROL

CONSTRUCTION

ELECTRICAL WIRING

SAFETY

Transporter
A PRODUCT OF AUTOMATIC

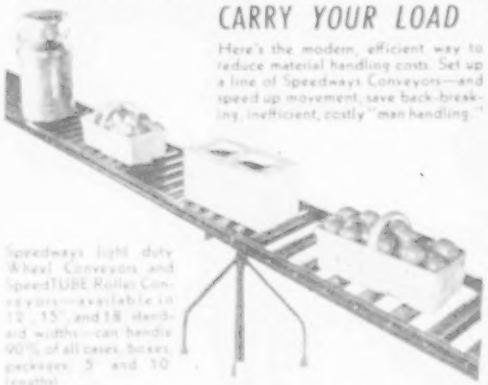
Trade Automatic Products
206 W. 87th St., Dept. G-5, Chicago 20, Ill.

▼ REPRINTS—Identify by IEN-2947 if you write the maker ▼

Handling Costs Getting You Down?

LET SPEEDWAYS GRAVITY CONVEYORS CARRY YOUR LOAD

Here's the modern, efficient way to reduce material handling costs. Set up a line of Speedways Conveyors—and speed up movement, save back-breaking, inefficient, costly "man handling."



Speedways light duty Wheel Conveyors and SpeedTUBE Roller Conveyors—available in 12", 15", and 18" standard widths—can handle 90% of all cases, boxes, packages, 5' and 10' lengths.

Write for literature that gives constructional details, tells about Speedways "Hi-Lo" feature that gives "Double Duty," shows simple hook up (without tools) and easy portability.

KEEP 'EM ROLLING WITH SPEEDWAYS CONVEYORS, INC.
1244 Niagara St.
Buffalo 13, N. Y.

Represented and carried in stock by experienced material handling equipment engineers in principal cities. Also manufactured in Canada.

▼ REPRINTS—Identify by IEN - 2948 if you write the maker ▼

Quick, Thorough Cleaning!

General Electric Furnace and Boiler Cleaner

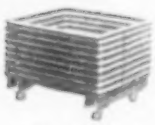
MAIL TODAY

GENERAL ELECTRIC

▼ REPRINTS—Identify by IEN - 2949 if you write the maker ▼

POWELL BUILDS MATERIALS HANDLING EQUIPMENT TO FIT EVERY JOB

COLLAPSIBLE BOXES



CASTER EQUIPMENT

PALLETS

ROLL OVER DUMP BOXES

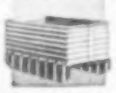
CRANE BOX PLATFORMS

Whatever your operation, Powell materials handling specialists can design and build equipment that will speed your production and lower your costs. And you'll be pleasantly surprised at the low initial costs.

So, before you buy, check with POWELL—originators of cold formed all-steel handling equipment.

EVERYTHING IN MATERIALS HANDLING CONTAINERS

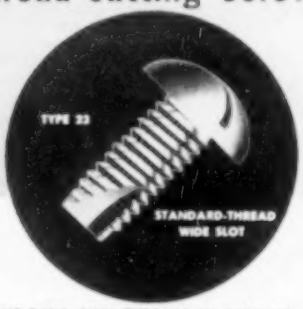
POWELL PRESSED STEEL



Dept. 63, Hubbard, Ohio

▼ REPRINTS—Identify by IEN - 2950 if you write the maker ▼

SHAKEPROOF thread-cutting screws



ACTUALLY CUT THEIR OWN THREADS IN DIE-CAST MATERIALS!

Because their exclusive design makes this possible, we grant second cutting edge to the work. Shakeproof Type 23 Screws are clearly suited for use in die castings and materials which tend to powder when threaded. With exceptional free-cutting action, they create a molded machine screw thread and completely eliminate separate tapping operations.

send for *FREE* sample kit No. 10

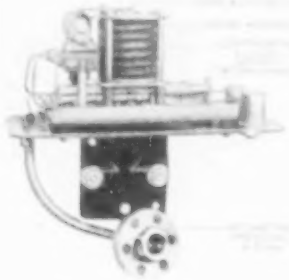
Try these screws! Prove to yourself their time and money saving advantages. Write today!

SHAKEPROOF inc.
DIVISION OF ILLINOIS TOOL WORKS
2501 North Keeler Ave., Chicago 39, Ill.

▼ REPRINTS—Identify by IEN - 2951 if you write the maker ▼

CONTROL . . Pneumatic transmitter operates a remote pressure control

Source: TAYLOR INSTRUMENT COS.
59 Ames St., Rochester 1, N. Y.



New design in the company's Transmaster transmitter, previously described IEN-436 in the company Tips mailed from a remote point. It is designed to receive pneumatic impulses and to transmit them in proportional air pressure in a pneumatic range from 3 to 15 pounds. Transmitting accuracy is to plus or minus .06 pound. Input impulse range, normally between 20 and 415 pounds. Controlled instruments can be located to 2,000 ft. from the transmitter.

A stainless-steel connection and pressure-sensitive Bourdon tube receive impulses from a pneumatic source, engage a solid-filled magnetic pressure assembly to prevent entrance into the transmitter of any corrosive pressure fluids. The assembly is designed in interchangeable arrangement so it can be removed and reequipped for changing conditions.

▼ REPRINTS—Identify by IEN - 2952 if you write the maker ▼

CRUSHING . . Motor driven unit breaks fluorescent lamps for disposal

Source: LADUBY CO.
P. O. Box 1123-A, New Haven 5, Conn.

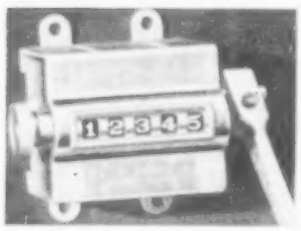
To get rid of old lamps

A metal housing, rectangular in outline, holds water to a given level and mounts a motor-driving breaking head to crush fluorescent lamps entered through an opening in the housing side. About a hundred lamps can be crushed into very small pieces in ten minutes. The motor plugs into a 110-volt a.c. line. Designation is Catalog FT-500.

▼ REPRINTS—Identify by IEN - 2953 if you write the maker ▼

COUNTING . . Wheel type unit for machine use, tamper proof design

Source: PRODUCTION INSTRUMENT CO.
700-10 W. Jackson Blvd., Chicago 6, Ill.



New design of the company's Silver King stroke counter employs a ratchet device that prevents reverse operation of the reset mechanism and indicates any tampering with the reset knob. The counter itself is the same design as that which has been on the market for some time. Five plastic number wheels ride in an assembly of steel base and chromium plated bending back of a reinforced plastic window. Key-reset and one-reset models are available in the line-up.

Overall length of the assembly shown is about 5 inches. Front to back measures 2¾ inches. Hole centers are 1¾ by 2¼ inches. The operating arm measures 4 in. from shaft center to end. List price is about $10.

▼ REPRINTS—Identify by IEN - 2954 if you write the maker ▼

WATER TREATING . . Demineralizer with rated flow capacity to 5 gph.

Source: CRYSTAL RESEARCH LABORATORIES, INC.
27-31 Allyn St., Hartford 3, Conn.

Raw water is poured into the 1½-qt. clear plastic reservoir at the top of this new Demiliter demineralizer after placing a cartridge of the ion-exchange resins Demiliite in the lower part of the plastic housing. The water flows down through the resins to deliver the equivalent of distilled water into a 3-qt. reservoir at the bottom. This pure water is drawn off as it is needed through a 12-in. plastic tube equipped with a pinch clamp to control the flow.

List price is $39.50 for the equipment including the conductivity meter and its electrodes to read conditions of the water in terms of sodium chloride in parts per million. A new cartridge with its 125-gram charge of the exchange resins sells $5.25. The equipment measures about 4¾ by 19½ inches. It plugs into a 110-volt electric a.c. line.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 10

▼ REPRINTS—Identify by IEN - 2955 if you write the maker ▼

If you do or plan to, you should know about Bristol Series 500 Air-Operated Controllers for temperature, pressure, flow, liquid level, humidity and pH value.

Their many exclusive features will enable you to get better control results.

They are the product of over 80 years of experience in building and applying hundreds of thousands of recording and controlling instruments.

Write for our new Bulletin A120, giving complete information. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL

Automatic Controlling, Recording and Telemetering Instruments

▼ REPRINTS—Identify by IEN - 2956 if you write the maker ▼

NOW! Delco Appliance's Revolutionary

NEW RIGIDFRAME MOTOR

Available for Your Needs!

Here's a new appliance motor —
New in mechanical features —
New in electrical performance!

In the new Delco Appliance Rigidframe Motor, four anti-friction lock the armature in place and provide a rigid frame upon which the motor is assembled. New tooling techniques developed by Delco Appliance engineers make possible the economical mass production of such precision mechanical features and electrical performance. Regardless of applied stress and shock, and thereby eliminate necessary bearing adjustments and assure a quiet, smooth, trouble-free operation. Motors are of a new magnetic material which allows a lower, thin profile in light-duty styles, which makes space-saving and storage under heavy work loads. The Rigidframe Motor also has a non-glare finish and has heavy duty, rubbing shaft and spline assembly, providing contact with flatness during rotation, for free-flow from internal bearings.

DELCO APPLIANCE DIVISION
General Motors Corporation
Rochester, New York

Rigidframe

Also manufacturers of Automatic Delco Heat and Delco Water Systems

▼ REPRINTS—Identify by IEN - 2957 if you write the maker ▼

SO — WE SOLD THEM THE PILOT MODEL OF OUR NEW FT (100% FUNCTIONAL) FORK TRUCK WHICH HAD BEEN IN THEIR PLANT ON TEST

This new, rugged, 3000 (900 lb. capacity electric fork truck was designed as a completely functional "work horse", to provide greater utility, safety and convenience, and to sell for less than any truck in its class.

For field testing we looked for the toughest operating conditions we could find, and selected a foundry where abrasive dust, congestion, heavy pounding loads, typical foundry floor conditions and continuous operation mean the most strenuous service ever asked of a truck. No industrial truck had been able to stand the gait in this foundry.

But the Baker FT did! From the day it was installed, there was not one minute of down time! As a result, the company insisted on keeping this same pilot model.

Write us to ask your nearest Baker representative for details on the toughest, heaviest-priced fork truck in its class.

BAKER INDUSTRIAL TRUCK DIVISION of the Baker Raulang Company
1226 WEST 80th STREET • CLEVELAND 2, OHIO
In Canada: Railway and Power Engineering Corp., Ltd.

Baker INDUSTRIAL TRUCKS

▼ Reply (?) (check) to IEN - 2958 if you write the maker ▼

Costs are again important

While it takes a big lathe to do big work—it takes a small, fast, modern Sheldon to do much lathe work most profitably.

Low in initial cost, low in operating costs (in power cost, floor space, depreciation and overhead) they are more productive on many jobs and are always more profitable on small work.

Faster and easier to operate. They are also extremely accurate. They have "Zero Precision" Tapered Roller Bearing, rather initial capacity and many improved operating features.

SHELDON

Write for catalog

SHELDON MACHINE CO. Inc.

▼ Reply (?) (check) to IEN - 2959 if you write the maker ▼

For Quick, Efficient On-Location Clamping Use Knu-Vise Portable Vises

KNU-VISE PRODUCTS LAPEER MFG. CO.
3056 DAVISON ROAD • LAPEER, MICHIGAN
Western Division, 422 Magnolia St., Glendale, California

▼ Reply (?) (check) to IEN - 2960 if you write the maker ▼

Direct-to-you shipment of Bronze Bar Stock
Cuts Bearing Costs!

Stocks of N.B.M. "Tiger" Bronze now located for fast delivery . . . the bar size you want when you want it.

More and more plant engineers—with an eye on bearing costs—are switching to longer wearing, low friction cast bronze machine. Cast Bronze is the one alloy that has years, sometimes months, longer service life than the compact bronze or the corresponding powder.

FREE BULLETIN

Write Today For Information and Prices!

American Brake Shoe Company — NATIONAL BEARING DIVISION
4950 Manchester Avenue • St. Louis 10, Mo.

▼ Reply (?) (check) to IEN - 2961 if you write the maker ▼

DRUM REPAIR . . Rolling machine and paint booth to repair steel drums

Source: RICHMOND MACHINE CO.
3369-81 Richmond St., Philadelphia 34, Pa.

New power roll [illegible]

Companion tool [illegible]

▼ Reply (?) (check) to IEN - 2962 if you write the maker ▼

EXTERMINATING . . Mice trapping pad, sticky surface, causes heart failure

Source: ELECTRONIC RAT TRAPS INC.
78-82 W. Main St., Rochester 4, N. Y.

Pads per pair
list at 37 cents

Slic Fast [illegible]

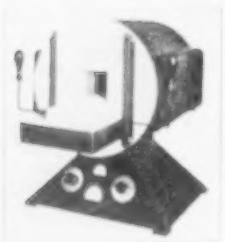
They are packed apart when [illegible] and are glued on a wide up adhesive tube back. A [illegible] is placed on the center of the 6 by [illegible] area. Mice are attracted by the bait, walk into the adhesive. Tests indicate they stayed fright after a short struggle [illegible] minutes.

One pad will catch as many as eight in one night. There is no "warning" [illegible] from a trap. The sticky pad, set by [illegible] is without having to touch the mice in the [illegible]

▼ Reply (?) (check) to IEN - 2963 if you write the maker ▼

HEATING . . Electric furnace for laboratory use, to 2,600 deg. F.

Source: HEVI-DUTY ELECTRIC CO.
4210-14 W. Highland Ave., Milwaukee 1, Wis.



Globar elements and a refractory muffle are employed in this new assembly of the compact 8 electric laboratory furnace previously described [illegible] The new unit is rated for temperatures from [illegible] deg. to 2,600 deg. F. Inside muffle dimensions are 4½ [illegible] 2 inches.

Manual control is provided by a tap changing transformer [illegible] Equipment includes an ammeter and indicating pyrometer. Operation can be specified on 110 or 220 volt 60 cycle. Input rating is 8.5 [illegible] Overall dimensions are [illegible] by 19½ inches.

▼ Reply (?) (check) to IEN - 2964 if you write the maker ▼

DRILLING . . Parallel arm fixture positions and holds work under spindle

Source: TORKARM CORP.
2910-14 S. Emerson Ave., Minneapolis 8, Minn.

New fixture [illegible]

As a result [illegible]

The fixture [illegible]

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER Descriptions Ratings See Page 10

▼ Reply (?) (check) to IEN - 2965 if you write the maker ▼

A STACK THAT REALLY IMPROVES YOUR BOILER
Efficiency

[illegible]

Plant and Sales Engineers
THE THERMIX CORPORATION
Stamford, Conn.

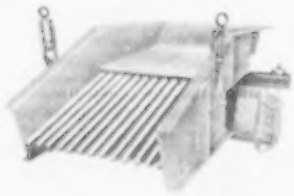
PRAT-DANIEL CORPORATION
75 2 WATER STREET, EAST POST CHESTER, CONN.

▼ Reply (?) (check) to IEN - 2966 if you write the maker ▼

FOR YOUR FEEDING AND SEPARATION PROBLEMS
SYNTRON

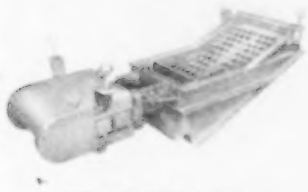
Instant Control of Flow—from a Gushing Torrent to a Trickling Dribble

VIBRATORY FEEDERS
Up to Hundreds of Tons per Hour — Rheostat Control of Flo



VIBRATING GRIZZLIES
Both Feed and Scalp With One Unit

for Sizing Desilting Desludging Dewatering Scalping—coal chemicals foods etc.



VIBRATING SCREENS
Wet or Dry — Single or Multiple Decks

3600 vibrations per minute move bulk materials at the desired rate—a turn of the control knob provides from a trickling dribble to a gushing torrent—over plain troughs, grizzly bars or screen sections. No gears, cams, speed reducers, etc.

Write for literature

SYNTRON CO.
410 Lexington Homer City, Pa.

IEN - 2968

field-tested and proven..

NEW!

COMPOSITION SEAL*

*PAT. APPLIED FOR

ball bearings by NICE

NICE "ground all over" close-tolerance "1600" series bearings were especially designed for adaptation to a majority of precision bearing applications. Series "3000" are relatively inexpensive unground radials of the same "precision type" construction.

WRITE FOR NEW CATALOGUE NO. 140

Exhaustively field-tested and proven highly successful, the NICE composition seal design effectively retains lubricant and excludes foreign material.

NICE BALL BEARING COMPANY
NICETOWN PHILADELPHIA PENNSYLVANIA

IEN - 2969

KEEP SHORT RUN STAMPING COSTS DOWN

SEND PRINTS FOR... LOW COST QUOTATIONS

Federal "Controlled Tolerance" STAMPINGS

FREDDY FEDERAL SAYS . . . "For experimental or production units . . . it's quality, precision and speed that count . . . and the expert die makers, modern equipment, experienced workmen, and careful inspection at Federal assure quality stampings within 'controlled tolerances' whether three pieces or 20,000 pieces are required". Federal stampings are made in any shape . . . in any size up to 9"x12" . . . any thickness up to 3/16" . . . from any material that can be stamped.

SEND YOUR PRINTS TODAY . . . you'll be pleasantly surprised over the low cost and prompt deliveries.

WRITE . . . for this No. 101 Bulletin today!

Federal TOOL AND MANUFACTURING CO.
3606 ALABAMA AVE. (ST. LOUIS PARK)
MINNEAPOLIS, MINNESOTA
"QUALITY STAMPINGS IN SMALL QUANTITIES"

IEN - 2970

SAVES NUTS, BOLTS, PINS

EASY TO PICK UP

only $14.95

Magnetic MAGIMMICK SWEEPER with Self-Release

Pick up a fortune in nuts and bolts with MAGIMMICK MAGNETIC SWEEPER! Reaches into corners, under benches and machines — powerful magnet sweeps up stray small metal parts in a jiffy. Open cover and sweepings are released instantly. It's fast . . . easy . . . ECONOMICAL. Get MAGIMMICK MAGNETIC SWEEPERS now.

OPEN COVER . . . RELEASE SWEEPINGS

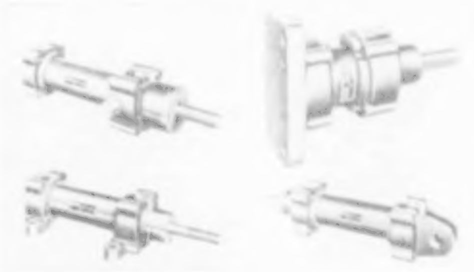
Ullman

Ullman Building Brooklyn 15, New York

IEN - 2971

CYLINDER . . Double acting hydraulic 1 to 8 in. diameter for oil to 1,500 lb.

Source: VICKERS INC.
1398 Oakman Blvd., Detroit 32, Mich.



Typical designs ...

Construction ...

Bulletin ...

IEN - 2972

WHEEL . . Pressed steel disc unit encloses end of shaft, has rubber tire

Source: MARKWARDT MFG. CO.
3352-56 N. Buffum St., Milwaukee 12, Wis.

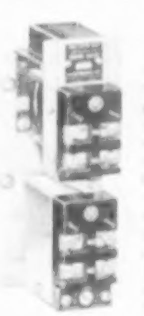
Two-disc assemblies ...

List price ...

IEN - 2973

TIMING . . Pneumatic delay relay operates contacts after 1/6 to 180 sec.

Source: ALLEN-BRADLEY CO.
1312 S. 2nd St., Milwaukee 4, Wis.



Bulletin 849 ...

The coil ...

IEN - 2974

Need an advertising manager? ...

IEN - 2975

low cost air

where steam is available

Write for Bulletin

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

IEN - 2976

AT LAST

A UNIVERSAL PRECISION GAGE With FINE ADJUSTMENT

STARRETT No. 995

USE IT FOR

Starrett

Buy Through Your Distributor

THE L. S. STARRETT CO. ATHOL, MASSACHUSETTS, U.S.A.

IEN - 2977

New PINES Tube & Rod END-FINISHING MACHINE SPEEDS WORK OUTPUT

SEE AT A.S.T.E. SHOW Philadelphia, Pa.

Completes 500 to 1,000 Pieces Per Hour

3 Operations in 1 Motion of Handle

Profitable Uses

Brief Specifications

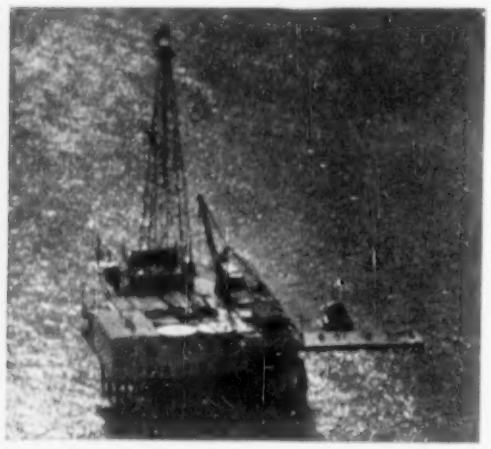
For long-run work ...

Write for free bulletin

PINES ENGINEERING CO., Inc.
Specialists in Tube Fabricating Equipment
Aurora, Illinois

REFER—Identify by IEN-2978 if you write the maker

REFER—Identify by IEN-2979 if you write the maker



DEVIL'S ISLAND ...FOR COATINGS!

It would be difficult to find a tougher job than this for protective coatings. Yet, coatings formulated with VINYLITE Brand Resins are protecting oil shore drill rigs in the Gulf of Mexico with almost unbelievable effectiveness.

After months, even years, these coatings are as totally good as new—despite constant exposure to corrosive attack by sea water, crude oil, air, sunlight, the buffeting of debris in pounding seas, and the repeated scraping contact with small boats.

They are the same type coatings that, after two years on oil tanks and pipelines in western Texas, were virtually good as new when 85% of other coatings were completely destroyed. They are the same acid-, alkali-, and chemical-resistant coatings that have set impressive new records for economy in protecting tanks, pipes, and chemical equipment throughout the chemical and processing industries.

Coatings based on VINYLITE Brand Resins save the cost of frequent refinishing. They remain intact despite long service—retaining their integrity and bond. They are equally effective on metals, concrete, and wood. They protect equipment from contamination by contents, and contents from contamination by equipment. For the latest technical data and information on suppliers of coatings based on VINYLITE Brand Resins, write Dept. HO-5.

Distributors: Monsanto Mining and Mfg. Co.
113 Pilgrim Ave., Detroit, Mich.

Visit the National Plastics Exposition
Navy Pier, Chicago, March 28-31

Vinylite BRAND RESINS

BAKELITE DIVISION

BAKELITE DIVISION
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

REFER—Identify by IEN-2981 if you write the maker

PUMP . . Radial piston hydraulic variable from 0 to 6 gpm. at 5,000 lb.

Source: SUPERDRAULIC CORP.
14254-58 Wyoming Ave., Detroit 4, Mich.

New Junior design has been added to the company's line of radial piston variable delivery hydraulic pumps, previously described HER-2418-46. The new design essentially duplicates the original one with its pair of elliptical rases which provide the radial movement of the two rings of pistons and hold inherent hydraulic balance. Also as in the original design these rings can be rotated through 90 deg. with reference to each other, so the piston action will be cumulative for maximum delivery when the long axis of the rings coincide or so the pistons will simply transfer the liquid from one ring of cylinders to the other when their long axes are at 90 deg. for no zero delivery.

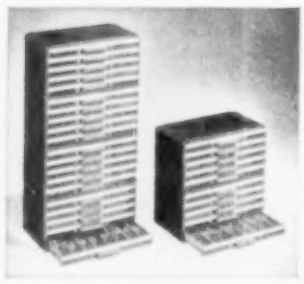
A pintle A is mounted in the left-hand head B of the pump as it is shown in the illustration. It carries two inlet passages connecting through the inlet in the side of the head and communicating to the cylinders in the rotor C at their intake positions. Two outlet passages connect at the pintle end. Pistons sliding in the two rings of cylinders are backed by axles as at G equipped with rollers or wheels E that ride on the elliptical inner faces of the two rases F. These rases are mounted so they can be rotated in opposite directions in the housing by ring gear, pinion and bevel-gear connection to a hand lever at the top of the assembly. In the position shown the long axis of the left-hand ring is vertical and the corresponding axis of the right-hand one is horizontal for liquid transfer through the bypass indicated at G and resulting zero delivery. The rotor is driven by pin-coupling connection inside the housing to the flange-equipped drive shaft H which extends to the right.

The pump is available in base or flange mounting, the former measuring 11⅝ in. in overall height, 10 in. in length axially, 7⅝ in. in housing diameter. Maximum delivery is 4 gpm. at 1,250 rpm., 6 gpm. at 1,800 rpm. Power input is 14 or 21 hp. at the two speeds.

REFER—Identify by IEN-2982 if you write the maker

RESISTORS . . Cabinet packaged assortments for engineers, technicians

Source: OHMITE MFG. CO.
4974 W. Flournoy St., Chicago 44, Ill.



Plastic cabinets are now supplied with the company's Little Devil resistors when these units are ordered in assortments of various sizes. There are eight such assortments covering a range of wattages and tolerances, the latter within 5 per cent or 10 per cent. Watts rate ½, 1, 2 or an assortment of all three. Quantities are 510 to 2505 units at a flat price of $70.50 to $80.50 including the containers.

REFER—Identify by IEN-2983 if you write the maker

ELECTRONIC TUBE . . Cathode ray unit, electrostatic focus and deflection type

Source: GENERAL ELECTRIC CO.
1949 Electronics Park, Syracuse 1, N. Y.

No. 3MP1 is a new 3-in. electrostatic cathode-ray tube featuring short overall length, bulb diameter of 3¼ in., useful screen diameter of 2⅝ in. and a small shell diameter. It is intended for use in small, industrial or commercial equipment where a maximum marking and [illegible] applications such as monitors, amplifiers, oscilloscopes.

Rating is 1,000 volts on No. 1 anode and 2,500 volts on No. 2. Negative bias is approximately 30 volts and positive bias 40 volts. Resolution is 17 maximum on No. 1 grid [illegible] 1 to 2 inspection is also differing standards [illegible]

REFER—Identify by IEN-2984 if you write the maker

BETTER . . . SURER . . . SIMPLER
The improved STAR BRAKEMOTOR
The best D.....dy motor for tough "start and stop" jobs

Less strain on shaft and bearings.
Maximum dissipation of heat.
Simpler tension adjustment.
New streamlined removable cover.

✻ DEMANDED by leading manufacturers of cranes, hoists, machine tools, printing presses, bottling and packaging machinery, high-speed molding presses and wherever equipment must "start and stop" continuously and with split-second accuracy.

Write for your copy of our new bulletin.

STAR-KIMBLE ELECTRIC CO.
A Subsidiary of Waldo Printing Press & Mfg. Co.
209 Bloomfield Ave., Bloomfield, N. J.

REFER—Identify by IEN-2985 if you write the maker

Paisley ADHESIVES

BOXEAL is the new *fast selling* Shipping Case Glue which tears fibres 15 to 20 seconds after application by brush or machine. Brings new high speed and efficiency to all production lines where short pressure time is essential. BOXEAL permanently seals all types of shipping boxes, corrugated, Fourdrinier kraft, jute, solid fibre. Non-toxic, odorless, stainless, and most of all . . EAST SEALING!

Get our complete laboratory report on Paisley BOXEAL and take advantage of the offer to send a trial 5 gallon shipment at the 55 gal. drum price available to all drum users of shipping case glues. We'll ship ON APPROVAL, F.O.B. our nearest plant, New York or Chicago. Fill in the coupon below, attach it to your letterhead, and mail it to us TODAY.

FILL IN & MAIL COUPON NOW FOR GENEROUS TRIAL OFFER

Gentlemen: Please send complete information about Paisley BOXEAL Shipping Case Glue.

You may send me approval, one 5 gal. shipment of BOXEAL at 55 gal. drum price.

Send me a copy of Laboratory Report on BOXEAL.

FIRM

STREET CITY

BUYER

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO, 16, ILL. • PHONE CANAL 6-2219
930 W. 51st STREET, NEW YORK 19, N.Y. • PHONE COLUMBUS 5-2060

BREVITY—Identify by IEN - 2987 if you write the maker

GAIN SPACE. Palletize and Stack Materials with MOTO-TRUC

MOTORIZED, BATTERY OPERATED HI-LIFT TRUCK

Up to 15" Shorter in Overall Length

Operates in NARROWER AISLES

THE CONTROL is unusually easy and simple. You get two speeds forward and two speeds reverse by a turn of the wrist on easy grip roller type handle. Push buttons in the ends of handle control the hydraulic lift.

PATENTED Articulating Hinged Spring Unit holds drive wheel down on floor for better traction.

OPERATOR SAFETY is most carefully protected by dead man controls and other proven safety features.

Write for Literature

PALLET TRUCKS
HI-LIFT TRUCKS
PLATFORM TRUCKS

The MOTO-TRUC Co.
1953 E. 59th Street
CLEVELAND 3, OHIO.
ORIGINATORS OF MOTORIZED HAND TRUCKS

"I WISH I HAD-"

An IEN reader is waiting for an answer to each item in this column.

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

BRASS SCREEN DISCS . . . [illegible] IEN W-33

CLEANING . . . "I wish we had a buyer for a metal parts machine [illegible]" IEN W-34

CONVEYOR . . . "I wish we had a buyer for a 30-in. flat belt conveyor [illegible] We hold the equipment at $2,000 in Des Moines, Iowa." IEN W-48

DESIGN ENGINEER . . . "I wish we had a machine development engineer [illegible]" IEN W-38

ENGINEER . . . [illegible]

ENGINEER . . . [illegible]

ENGINEER . . . [illegible]

ENGINEER . . . [illegible]

FLASH WELDER . . . "I wish we had a buyer for a used flash-welding machine [illegible]" IEN W-41

FOREMAN . . . [illegible] tooling and forming dies. We are in Los Angeles." IEN W-43

(Please turn to page 108)

BREVITY—Identify by IEN - 2991 if you write the maker

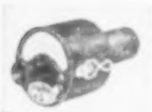
DON'T BE A SLAVE TO LIGHT SWITCHES

GE TIME SWITCHES

GENERAL ELECTRIC

BREVITY—Identify by IEN - 2988 if you write the maker

WHY GUESS THE TEMPERATURE . . . when you can see it!



Just sight it . . . and press the button!

THE NEW PYRO RADIATION PYROMETER

Tells spot temperature instantly

—on heat-treating furnaces, kilns, forging and tire boxes. No thermocouples, lead wires or accessories needed! Temperature is indicated on direct-reading dial at a press of the button. Any operator can use it. In two double-ranges for all plant and laboratory needs. *Write for FREE Catalog No. 100.*

PYRO OPTICAL PYROMETER

Foundry temperatures at a glance!

Determines temperature of minute spots, fast moving objects or smallest streams—accurately, rapidly. No correction charts or accessories needed. Easy to operate—weighs only 3 lbs. Special types available to show true spout and pouring temperature of molten metal in open. In 5 temperature ranges. *Write for FREE CATALOG No. 85.*

THE PYROMETER INSTRUMENT COMPANY
New Plant and Laboratory
Bergenfield 21, N. J.

BREVITY—Identify by IEN - 2992 if you write the maker

MARSHALLTOWN Marshalltown Mfg. Co., Marshalltown, Iowa

BREVITY—Identify by IEN - 2989 if you write the maker

MORE THAN JUST A New Catalog on EYE and RESPIRATORY SAFETY EQUIPMENT

WILLSON

WILLSON PRODUCTS, INC., 217 WASHINGTON ST., READING, PA.

BREVITY—Identify by IEN - 2990 if you write the maker

ALLIGATOR CONVEYOR BELT LACING

Every Tooth A Vise

in Long Continuous Lengths for Conveyor Belts . . . . .

Order from Your Supply House. Ask for Bulletin A-60

FLEXIBLE STEEL LACING CO. 4610 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

BREVITY—Identify by IEN - 2993 if you write the maker

Lighten your work with

SYLVANIA BIRDSEYE LAMPS . . *it pays!*

SYLVANIA ELECTRIC

REPORT—Heads to IEN-2994 if you write the maker

GET THE EXTRA ADVANTAGES OF
Stepless Heat Control
FROM 350°F. TO 1850°F.

WITH THESE LOW COST
TEMCO ELECTRIC FURNACES

Prices Model KCE Complete
For 115V AC $85.00
For 230V AC $85.00

Prices Model GTF Complete
For 115V AC $62.50
For 230V AC $87.50

Write for data and dealer's name

THERMO ELECTRIC MANUFACTURING CO.
452 West Locust St., Dubuque, Iowa

MARCH 1950

INDEX TO ALL PRODUCTS

How to find what you need:

Leaf through the index with your current needs in mind, noting those subjects that sound like solutions to your problem or suggest that the subject bears[illegible]

Next use this index to pick up page number references to advertisements in the section, or to the text pages. For products in the index after a number means additional material.

Now take one subject at a time and refer to the pages you have noted. This time read the catalog descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us to get the manufacturers' data.

If you have trouble in finding the answer to your current problem through the subjects in this index, let us know. We can usually locate it if supply with the help of our uniform year index of all products that have appeared in IEN. Any question we cannot answer will be published in our "WHO I Had" column to invite suggestions.

A

B

C

D

E

F

G

H

REPORT—Heads to IEN-2995 if you write the maker

NEW INTERCOM
can cut your
Operating Costs—
In a dozen ways!

IN THE OFFICE

IN THE PLANT

Write Dept. C-5
Executone
COMMUNICATION & SOUND SYSTEMS
415 Lexington Ave., New York 17, N. Y.

REPORT—Heads to IEN-2998 if you write the maker

For Critical Test Drying

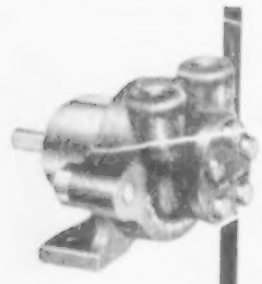
TRENT
"FOLDED and FORMED"
HEATING ELEMENTS

New
STANDARD RACKS

"Folded and Formed" Heating Elements, long noted for their exceptional efficiency, long life and overall operation, are now available in standard 8" x 12" racks, providing new convenience and adaptability in the widest range of applications. For your specifications write for Bulletin 401.

TRENT INC.
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27 PA.

REPORT—Heads to IEN-2996 if you write the maker



THIS
SMALL PUMP
CAN DO
BIG THINGS
FOR YOU

IN PRESSURE LUBRICATION
ON HYDRAULIC MECHANISMS
FOR FUEL OR LIQUID TRANSFER

It's the Tuthill Model L—a positive displacement, internal-gear rotary pump with the famous Tuthill mechanical seal. Capacities up to 5 gpm. at pressures to 100 p.s.i. Ring or foot mounting. Many packing arrangements. Write for Model L bulletin.

TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Ill. Phone: Pilgrim 5-0700

REPORT—Heads to IEN-2997 if you write the maker

LARGEST
CENTRIFUGAL
EVER MADE...
AN AT&M
LINK SUSPENDED
CENTRIFUGAL

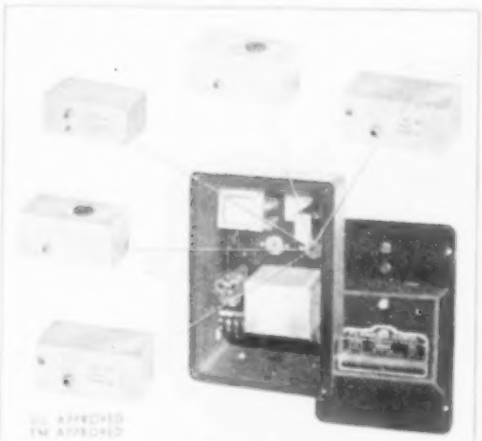
New centrifuging developments speed chemical processing

For current advances in centrifuging see work by the new AT&M Centrifugals "made to order" for more [illegible] Made to the manufacturer's specifications, these centrifugals [illegible] Bulletin of [illegible] For additional data [illegible] write to the manufacturer.

[illegible] A. Machine Company, 1417 Hyde Park Ave., Boston 36, Massachusetts.

A.T. and M.
CENTRIFUGING

REPORT—Heads to IEN-2999 if you write the maker



UL APPROVED
FM APPROVED

POSITIVE PROTECTION

[illegible] the FLAME-EYE®, Wheelco's combustion safeguard with [illegible] safety and [illegible] performance for the instant self-proving [illegible] Get Wheelco instrumentality in action.

Write for Bulletin F2.1. Wheelco Instruments Company, 845 W. Harrison Street, Chicago, Illinois.

wheelco electronic controls

AND SERVICES IN THIS ISSUE

MARCH 1950

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BREVITY—Identify by IEN - 3000 if you write the maker

Its self-cleaning action is ideal for the handling of sand, gravel, limestone, fertilizer, salt, or any other hard, abrasive materials.

Only with Sprout-Waldron BELT-SAVER Pulleys can you expect belt life increases from 50 to 400%. Get full details on the BELT-SAVER as well as on the complete line of S-W "Blue Face" Cast Iron Pulleys today!

• WRITE FOR LITERATURE • 94

SPROUT-WALDRON & COMPANY
Manufacturing Engineers
5 WALDRON STREET MUNCY, PA.

BREVITY—Identify by IEN - 3001 if you write the maker

STONE Swing-Cut METAL Cut-Off Machine

★ Greater Capacity
Cuts up to 3" solids and 4" pipe

★ Faster Cutting
Cuts any metal in seconds

★ Flexible
Cuts any angle from straight to 46° in quick change self centering vise

★ Easier Operation
Less operator fatigue — more operator confidence

★ Low Price
Offers you much more cutting capacity per dollar than any other abrasive cut-off machine

Write for bulletin and name of your nearest dealer

STONE MACHINERY CO., INC. 318 Fayette St. Manlius, N. Y.

BREVITY—Identify by IEN - 3002 if you write the maker

TAPES by OKONITE

YOUR GUARANTEE OF EXTRA VALUE

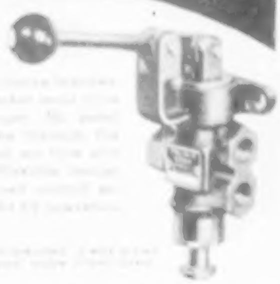
"The tape with the yellow core"

Sold only through Recognized Wholesalers

Ask for them by name... Panther and Dragon friction and rubber tapes

BREVITY—Identify by IEN - 3003 if you write the maker

VALVAIR — has an Air Control Valve ... FOR EVERY AIR CONTROL NEED



The VALVAIR line includes cam, knob, lever, foot treadle, cylinder, diaphragm and solenoid operated air control valves

VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio
AFFILIATE: SINCLAIR-COLLINS VALVE CO.

Rely Upon Valvair

BREVITY—Identify by IEN - 3004 if you write the maker

ARMSTRONG STEAM TRAPS credited with savings up to 33⅓%

ARMSTRONG MACHINE WORKS
858 Maple St., Three Rivers, Michigan

BREVITY—Identify by IEN - 3005 if you write the maker

WHY SWEEP AWAY YOUR FLOORS?

STOP "DUSTING"

Harden Concrete Floors with STONHARD STONTOP

Designed to eliminate dust ... because it penetrates into the concrete floor and firmly anchors the surface together.

STONHARD COMPANY
Building Maintenance Materials since 1922
102 Stonhard Building, 1306 Spring Garden Street
Philadelphia 23, Pennsylvania

Please send a STONTOP folder to:
Firm
Mr. Title
Address
City Zone State

BREVITY—Identify by IEN-3006 if you write the maker

HOW TO GET

IRON-FREE SLIP

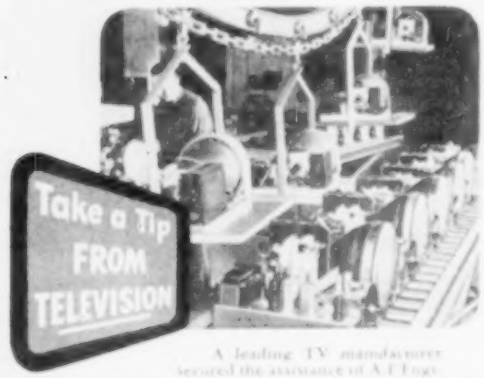
In these days of high competition you can't afford to have rejects or seconds. Clean your slip magnetically — here is a bank of three STEARNS Type "QS" Magnetic Filters doing the job at one of the largest plumbing fixture companies in the world. STEARNS filters were chosen because they do the job with one pass of the slip . . . because they are automatic, fool proof, with no chance of contamination from interrupted electrical circuits . . . because of their simple but rugged design . . . because they are easily cleaned, readily moved about.

Write today for descriptive literature on both open and closed circuit STEARNS Magnetic Filter Separators.

Stearns MAGNETIC MANUFACTURING CO.

626 S. 28th Street, Milwaukee 15, Wis.

BREVITY—Identify by IEN-3007 if you write the maker



A leading TV manufacturer secured the assistance of A-F Engineers to design this improved method to produce more TV sets to satisfy the increasing demand for America's fastest growing product. As shown, it was necessary to synchronize the operation on the Roller Conveyor with an overhead storage handling condition. If you need help in speeding your production, write today.

THE ALVEY-FERGUSON COMPANY

241 Disney Street Established 1901 Cincinnati 9, Ohio
Offices in Representative in Principal Cities—Coast to Coast

CONVEYING EQUIPMENT
Alvey-Ferguson
WASHING MACHINES FOR INDUSTRY

BREVITY—Identify by IEN-3008 if you write the maker

The American Pulley Company

4226 WISSAHICKON AVE., PHILADELPHIA 29, PA.

NAME
COMPANY
ADDRESS
CITY STATE

"I WISH I HAD"

(Continued from page 105)

IGNITING . . . "I wish we had the name of a supplier for a mechanical candle made basically of a metal tube containing a supply of lighter fluid and a wick to produce a flame at the top." IEN W-42

MANAGEMENT . . . "I wish I had contact with a company needing a technical administrative assistant with 12 years mechanical and industrial engineering experience, in Long Island, N. Y." IEN W-43

MANAGEMENT . . . "I wish I had contact with a company requiring the services of an engineer with a degree from Columbia University in Industrial Management. I am quite willing to work at whatever may be required to prove my worth. I am at present in New York City, unmarried, 27 years old." IEN W-43

MATERIALS HANDLING . . . "I wish we had a source for equipment and complete engineering information to raise incoming materials in our bag manufacturing division from the ground to a fifth floor area for distribution from there by gravity. We estimate maximum load at about one ton." IEN W-44

NEW PRODUCT . . . "I wish I had contact with a manufacturer interested in taking over production and sales of a new machine on which I hold patent application to facilitate in manner similar to a trimming press to make pieces from wood, plastics, fibrous and composition materials. The machine will produce complete flat shapes including irregular curves and straight lines at a minimum rate of 200 pieces per hour. It employs an inexpensive master form and cutting tools of simple design for each new shape. Capacity of the present machine is limited to stock sizes to 20 by 40 by 2½ inches. I will consider an offer to sell manufacturing rights and place the machine I have built for operation with or without my services will contract for work with it, in Peoria." IEN W-45

PACKING . . . "I wish we had a buyer for all or any part of 3,000 lbs. of assorted packing of which 1,000 lbs. is Johns Manville ⅝ inch square C-11 Centripac, the balance is in assorted sizes and types of Palmetto, Anchor, Garlock, U. S., Petro, Super Cotton. All is in original cartons in Ohio. A stock list is available." IEN W-48

PRINTING . . . "I wish we had a buyer for a Poser 54-in. blueprinting machine with provision for electric drying. The machine operates continuously in printing, washing and drying. It is located in Milwaukee." IEN W-50

PURCHASING . . . "I wish I had contact with an organization requiring the services of a buyer with 10 years of experience in production and engineering purchase and also in production planning, scheduling, stock and inventory control. I am 36 years old, was at present in Syracuse." IEN W-51

SALES MANAGER . . . "I wish we had contact with an individual between 30 and 40 years old, preferably a graduate in mechanical engineering or the equivalent, in practical experience, for a client of ours who is manufacturing and selling quality grating to be used in heavy machinery and sold as original and replacement equipment into manufacturers agents in Ohio." IEN W-52

SCREW CAP CLOSURES . . . "I wish we had a buyer for approximately 700,000 40 mm. screw cap closures with vent liners. The closures carry and private imprint on the ground. The stock is in Cincinnati. Samples on request." IEN W-53

WOOD PART . . . "I wish we had a source of supply for the this wood part shown here in quantities of 2,000 and 20,000. We would like to have separate quotations on the suggested tools and on extras for staining, waxing and varnishing, or lacquering." IEN W-54

WORKS MANAGER . . . "I wish we had contact with an individual to fill the position of works manager for one of our clients. He is manufacturing light and heavy industrial equipment in a plant in Eastern Pennsylvania. The plant includes a foundry, machine shop, plate and sheet metal shops, wood shop, forge and blacksmith department. He should be between 35 and 45 years old, graduate in mechanical engineering, able to handle men." IEN W-55

BREVITY—Identify by IEN-3009 if you write the maker

Material Handling — At the Machine

Proper "Positioning" saves unnecessary handling

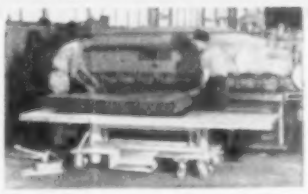


Illustration of positioning sheets at a shear.

"Position" with a

LYON-Raymond

Hydraulic Elevating Sheet Feeding Table

- Increases feeding speed — + Lessens spoilage
- Reduces fatigue—eliminates tiresome, awkward positions
- Insures safety—does away with much manual lifting from unsafe positions

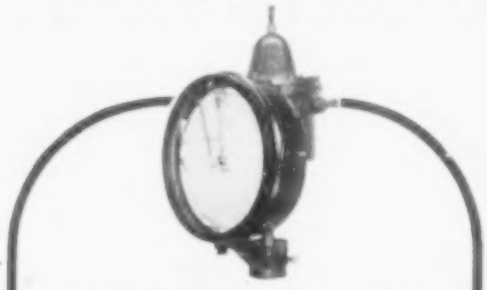
For more particulars on sheet or strip feeding, write for Bulletin 261. Also ask for booklet—"Material Handling—At the Machine." This booklet contains many other illustrations of "positioning" of other products.

LYON-Raymond CORPORATION

Electric Power Trucks . . . Skid and Pallet Lifts
Hydraulic Elevating Equipment
Positioning Sheet and Die Handling

3525 Madison St. GREENE, N.Y.

BREVITY—Identify by IEN-3010 if you write the maker



AUTOMATIC HYDROMETER

Continuously Records Densities!

Hence no invaluable aid to operating efficiency in chemical, petroleum, paper, food, and other process plants. The Foxboro Liquid Density Recorder furnishes continuous, dependable records of density in flowing liquids. May be calibrated to specific gravity, density in other scales. Automatic Recording Controllers also are available.

Both instruments are for permanent installation. Function without operator's attention. Accuracy is unaffected by heat. Open records easily read to small unit values.

Write for detailed Bulletin A-264. The Foxboro Company, 42 Neponset Ave., Foxboro, Mass., U. S. A. Branches in principal cities of U. S. and Canada.

FOXBORO Reg. U. S. Pat. Off. DENSITY RECORDERS

BREVITY—Identify by IEN-3011 if you write the maker

STANLEY HAMMERS

...each designed to do its job better

In the broad line of Stanley Hammers are types eminently fitted for a wide variety of work in industrial plants. Each of the types illustrated here is for a different kind of work.

For the packing and shipping room, and building maintenance work the No. 51 Stanley Nail Hammer. For machine shop and product service work the No. 110 Ball Pein Hammer and the No. 252 Machinist's Riveting Hammer. For assembly and light metal forming, the No. 504 Soft Face Hammer. Each is available in a variety of weights and sizes to meet all industrial needs. Stanley Tools, New Britain, Conn.

THE TOOL BOX OF THE WORLD

STANLEY Reg. U.S. Pat. Off.

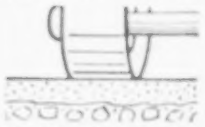
HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

BREVITY—Identify by IEN-3012 if you write the maker

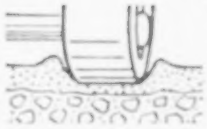
NEW FLOORS In 24 Hours

BONDS PERFECTLY — NEVER COMES LOOSE

No Chipping required — Install directly over your old concrete, wood, brick or stone floors, walks or drives. Interior or Exterior.



PERMAFLEX Floors will not rut under 3000 lbs. pressure per square inch.



OLD MASTICS RUT and DENT under 300 lbs. per square inch.

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